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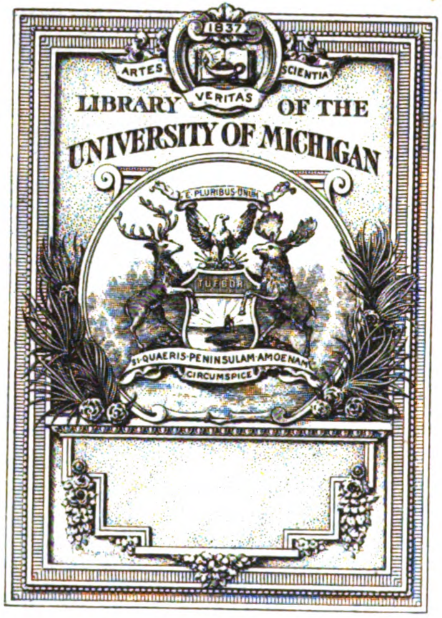
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A Monthly Record of Medicine and Surgery. 104095

January to December, 1900, Inclusive.

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VOLUME II.

Nos. 1 to 12.

MASONIC TEMPLE, MINNEAPOLIS, MINNESOTA.

TABLE OF CONTENTS, VOLUME II.

ORIGINAL ARTICLES.

Diagnosis of Diseases of the Rectum and Anus, C. M. Ferro, M. D., Minneapolis 1
Intestinal Obstruction from Biliary Calculi, J. Wesley Bovee, M. D., Washington, D. C. 4
Advertising in the Medical Profession, Charles T. McClintock, M.D. Ph. D., Detroit, Mich. 6
Congenital Rectal Occlusion the Result of Maternal Impressions, C. E. Worthington, M.D., Mullen, Idaho. Selected from the Medical Sentinel... 7
Remarks on Joint-Diseases, Knut Hoegh, M. D., Minneapolis.... .. 33
Puerperal Mania, C. K. Bartlett, M. D., Minneapolits. 36
Complications and Sequelæ Attending or Following Reducible or Irreducible Dislocations of the Shoulder-Humero-Scapular Joint, Thomas H. Haniey, M. D., New York City........ 39
Diagnosis of Small-Pox (Illustrated), C. O. Probst. Ohio, by courtesy of the Columbus Medical Journal....... 43
The Code of Ethics, Samuel C. Busey, M. D., Washington, D. C... 80
The Neuro-Muscular Elements in Hip Joint Disease, N. M. Shaffer, M. D., New York City........ 117
Three Interesting Patients for a Recent Graduate, H. Bowman, M. D., Torah, Minn........ 120
The Trained Nurse, Miss Christine Williams....... 121
Notes from a Lecture on Paresis before the Senior Medical Class of Hamline University, by C. K. Bartlett, M. D., Professor of Psychological Medicine........ 141
Examination of the Rectum and the Sygmoid Colon, by A. W. Abbott, M. D., Minneapolis........ .. 146
Resection of the Hip—Clinics and Discussions at the New York Academy of Medicine, Section of Orthopædic Surgery....... 147
Plague Epidemic in the Village of Kolobovka, Russia, by Professor V. Tchistowitch, translated by Past-Assistant Surgeon H. D. Geddings....... 149
Symptomologic Diagnosis of Valvular Obstipation, by Thos. Chas. Martin, M. D., Cleveland, Ohio.. 152
Shall the Specialist Divide the Fee with the General Practitioner? by Emory Lanphear, M. D., Ph. D., LL. D., St. Louis........ 153
The Relation of Chemistry to Medical science by Charles W. Drew, M. D., Ph. D., Professor of Chemistry and Toxicology, Hamline University, Medical Department, Minneapolis 165
Physician vs. Medicine Proprietors and Medicine Patentees, by A. Ravogli, M. D., Cincinnati 171
Some Measures for the Prevention of Crime, Pauperism and Mental Deficiency, by G. Hudson-Makuen, M. D., Philadelphia, President American Academy of Medicine.. 174
Progress of Renal Surgery (Illustrated), H. B. Sweetser, M. D., Minneapolis 185
Some Diseases of the Intestines, associated with catarrhal Enteritis. The Principal Features of their Etiology, Morbid Anatomy and Treatment, H. Jefferson Obrien, M. D., West Superior, Wis. 193
Hay Fever, A. G. Aldrich, M. D. Minneapolis 199
Rupture of the Aortic Leaflet in a Case of Right Hemiplegia with Aphasia due to Cerebral Hemorrhage, Augustus A. Eshner, M. D. Philadelphia. 201
An Unusual Symptom of Perforative Appendicitis, by David Owen Thomas, M. D., M. R. C. S., Minneapolis 209
Climate: a Factor in the Treatment of Tuberculosis, Francis Crosson, M. D., Albuquerque, N. M. 210
Causation and Relative Frequency of Typhlitis, Perityphlitis and Appendicitis in Infancy and Childhood, Joseph Henry Byrne, M. D., New York City... 212
The Legal Prevention of Tuberculosis, Clark Bell, Esq., LL. D., New York City 214
Bovine Tuberculosis and Cancer, F. F. Casseday, M. D., Minneapolis 216
An Unrecorded Case, Florence C. Baier, M. D., Owatonna, Minn... 216
Dysentery, E. H. Bayley, B. L., M. D. 247
The Matter of Specialties in Medicine by Franklin Staples, M. D., Winona... 257
Clinical Use of Diphtheria Antitoxin, by Edwin Rosenthal, M. D., Philadelphia, ... 259
An Unusual Accident in Intubation of the Larynx (H. A. Beaudoux, M. D., Fargo, N. D.)............. 287
The Physician's Influence in Revacation Schools (Helen C. Putnam, M. D., Providence, R. I.).. 288
Tobacco—Its Uses and Abuses. (H. A. Minor, M. D., Mason, Miss.).. 291

SYMPOSIA.

Gonorrhea.

Clinical Features of General Infection from Gonorrhea, A. Wang, M. D. 63
Gonorrhea in the Female, R. E. Cutts, M. D. 64
Review of New Remedies and Methods in the Treatment of Gonorrhea, C. D. Harrington, M. D. 66
Prophylaxis of Gonorrhea, Knut Hoegh, M. D. 68

CURRENT GLEANINGS.

Remedy for Cystitis 67
Remedy for Prostatorrhea.. 67
Argonin: Its Use in Acute Urethritis, T. A. Hopkins, M. D..... 68
Joint Affection in Gonorrhea. 70
Vulvo-Vaginal Catarrh....... 71
Enlargement of the Prostate, Treatment and Cure 72
Several Valuable Remedies for Gonorrhea 72
Pathology and Therapeusis of Uterine Gonorrhea 73
Blennorrhagia 73
Effect of Repeated Coitus on the Seminal Fluid 73
Urethroscopic Diagnosis 74
Gonorrhea 74
Protargol 74
The Abortive Treatment of Gonorrhea 74
Gonorrhea in Women 74
The Operative Treatment of Urethral Stricture....... 75
Gonorrhea and Vulvo-Vaginitis in Children 75
The Bacteriology of Gonorrhea ... 75
Sixteen years' Experience with Gonorrhea 75
Urethral Exploration 75
Remedies for Prostatitis 76
Injection for Gonorrhea in Women 76
A Plaster for Lupus of the Vulva.. 76

Small Pox.

Symptoms and Diagnosis of Small Pox, J. W. Macdonald, M. D. 91
The Relation of Varicella to Variola, D. O. Thomas, M. D. 94
Prophylaxis and Treatment of Variola, Chas. Nootnagle, M. D. ... 97

CURRENT GLEANINGS.

Small Pox and Vaccination 98
The Small Pox Situation 101
How to Secure Safe and Successful Vaccination. 102
A Few Don'ts for the Operator... 102
Vaccination .... 103 and 104
Clinical Experience with Vaccination for Whooping Cough 103
The Technique of Vaccination 104
Vaccination and vaccine....... 104
"It" Is Small Pox. 111

Serotherapy and Diphtheria.

Antistreptococcic Serum, with Cases, Charles H. Hunter, A. M., M. D. 233
On the Pharmacopœial Recognition of Diphtheria Antitoxin, Jos. England 235
Diphtheria, J. P. Barber, M. D. 237
Diphtheria—Diagnosis and Treatment, C. S. Bigelow, M. D. 239

CURRENT GLEANINGS.

Serum Therapy 241
Clinical Value of Diphtheria Antitoxin 241
Diagnosis and Treatment of Diphtheria 242
Remarks on Diphtheria 243
Diphtheria Bacilli in Mouths of Healthy Persons.. 243
An Unusual Occurrence Following the Injection of Diphtheria Antitoxin. 243
The Effect of Repeated Injections of Toxins Upon Nutritive Exchanges. 244
Antitoxin and Intubation, with a Report of One Hundred Operations 244
Can the Period of Infectiveness of Diphtheria Be Shortened and Its Tendency to Spread Diminished .. 245
A Discussion on the Treatment of Diphtheria 245
Early Intubation in Laryngeal Diphtheria 245
Diphtheria. 245
Treatment of Diphtheria with Oil of Turpentine 246
The Vomiting of Diphtheria 246
Diphtheria of the Conjunctiva 246
A Case of Diphtheric Sore of the Lower Lip with Secondary Infection of the Throat 247

Tuberculosis.

On the Need of Sanatoria in the Treatment of Pulmonary Tuberculosis. (J. H. Stuart, M. D., Minneapolis) 277
Discussion 281

CURRENT GLEANINGS.

Tuberculous Lesions from a Clinical Point of View................. 282
Tuberculosis and Tuberculous Ulcers of the Stomach and Other Abdominal Organs...... 283
The Treatment of Headache in the Phthisical.... 285
A Theory of Fad Foods for Tuberculosis 286
The Treatment of Consumption at Home 287

HOSPITAL CLINICS.

State University Clinic by Dr. C. H. Hunter, at St. Barnabas Hospital, Typhoid Fever 24
State University Clinic at St. Barnabas Hospital, by Dr. C. H. Hunter. Notes on cases Illustrating Lumbar Puncture 58
Compound Fracture of the Elbow—Fracture of the Patella—Compound fracture of the Patella—Sarcoma of the Humerus, Disarticulation at the Shoulder Joint. A Clinical Lecture by James H. Dunn, M. D., Professor of the Practice of Surgery, University of Minnesota 197

CONTENTS VOLUME II.—CONTINUED.

EDITORIALS.

Cigarettes 12
Women and Bicycles 13
What Is Truth? 14
The Southern National Park Association 14
The Late Dr. Wheeler, of Ireland.. 15
Result of the Use of Sanarelli Serum in Yellow Fever 15
The Pestilential Mosquito. 16
The Electrical Diagnosis of Diseases with Complications 18
The Detection of Gall Stones by Röntgen Rays 48
The Minneapolis Small-Pox Epidemic 49
Pretty Girls as Trained Nurses 49
Premature Burial—Its Prevention.. 50
Death of Dr. William A. Hammond 50
The So-called "Flexion" Style of Marching 51
On the Use of Iodoform 52
The Bubonic Plague 86
A Simple Device for Rapid Hypodermoclysis in Combatting Shock 87
To Fill the Place of the Index-Medicus 88
Hypodermoclysis in Typhoid Fever 88
Small Pox 89
The Samuel D. Gross Prize 89
The Pathology of the Common Communion Cup 108
Some Thoughts about Medical Education 110
A Lactating Virgin 111
A New Method of Treating Diffuse Septic Peritonitis 124
The Experiments on Animals 125
The Numerous Products of Coal... 126
Surgeons' vs. Physicians' Fees 127
Removal of the Vermiform Appendix as a Prophylactic Measure .. 127
The Minnesota State Medical Society 154
The Two-Meal-a-Day Idea 154
Prophylactic Measures against the Bubonic Plague 155
A Woman Said to have Given Birth to Nine Fistes 155
Boston's War on Tuberculosis 155
The New Index-Medicus of France. 158
Modern Views of Gastric Hemorrhage 176
Management of the Hair during and after Fevers 178
A Monstrous Custom 202
Quarantine for Contagious Diseases. 202
The Treatment of Tetanus 220
The Future Conveyance for the Physician. 221
The Health Commissioner of Minneapolis 221
The Microbe of Elephantiasis 222
Corrections for August Number .. 222
The Medical Defense Association of Minnesota.. 250
That Horrible Cataclysm at Galveston 251
Vaccination in Porto Rico 251
Wireless Telephone 251
The Greatest of all Medical Problems 264
A Minnesota Sanatorium for the Tubercular 296
"The Only Strictly Honest and Ethical Journal." 296
"Welcome the Coming, Speed the Parting Guest." 296
Effects of Culture on the Virulence of Streptococci 297
The Multiplication of Bacteria.... 297

CORRESPONDENCE.

To the Members of the Medical Profession in the United States .. 17
A Card from Oscar Tucker 116
Concerning the Common Communion Cup—Letters from Minneapolis Pastors 157
Roentgen Society of the United States—Announcement by the Secretary 158
Pan-American Exposition, 1901, at Buffalo, A. L. Benedict, Buffalo, N. Y. 203
Medical Legislation in the United States, Francis Crosson, Albuquerque, N. M. 203
A Medical School Closed 204
A Notice for C. S. A. Surgeons 204
Why Go East for a Medical Education? 224
Northwestern University Medical School 253
Saunders' Announcement 253

REPORTS OF SOCIETIES.

New Officers for the North Dakota Medical Society 179
Doings at the Thirty-Second Annual Meeting of the Minnesota State Medical Society at Duluth. 204
Southern Minnesota Medical Association, Programme for Meeting at Winona, August 2d 206
Hennepin County Medical Society, List of New Officers 207
American Association of Obstetricians and Gynecologists 222
American Medical Association 223
Roentgen Society of the United States 223
Mississippi Valley Medical Association 252
The Tri-State Medical Society of Alabama, Georgia and Tennessee. 252
American Public Health Association 253
Fraternity of Zeta Phi for Women. 253
Third Pan-American Medical Congress, Havana, Dec. 26-29, 1900 268

PROGRESS OF MEDICINE.

Surgery.

Treatment of Acute Serous Synovitis Without Rest 53

Obstetrics.

Post-Partum Hemorrhage—Its Prevention and Treatment 54
Prevention and Treatment of Puerperal Hemorrhage 128
A Problem in Antenatal Pathology. 180

Pediatrics.

Cyanosis in Croup 19
Belladonna in the Broncho-Pneumonias of Children 19
On the Management of Febrile Disorders of Infancy and Childhood. 55
Typhoid Fever in the Young 112
Morbid Anatomy of Tuberculosis in Childhood. 113
Rickets 180
Amnesia 180

Neurology and Psychiatry.

Pathology of Paralysis Agitans 20
The Relation of Migraine to Epilepsy 56
Treatment of Congestion of the Brain 113
New Contribution to the Pathologyenesis of Basedow's Disease .. 114
A Case of "Family Periodic Paralysis" 114
A Case of Death from Psychic Insult with Remarks upon Delirium Nervosum Dupuytren, and Operation Psychises 129
A Case of Poliencephalitis in an Adult 129
The Use of Suprarenal Extract in Hay Fever and Asthma. The Treatment of Hay Fever by Suprarenal Gland. The Use of the Adrenal Substance in the Treatment of Asthma.. 158
Neurasthenia and Its Treatment .. 207

Clinical Microscopy.

Recent Progress in Bacteriology.. 21

BOOK NOTICES.

A Manual of Diseases of the Eye, by Edward Jackson, A. M., M. D. Published by W. B. Saunders & Co. 28
Webster's International Dictionary. Published by G. & C. Merriam Company 28
Thorington, Refraction and How to Refract, by James Thorington, A. M., M. D. Published by P. Blakiston's Son & Co. 28
Lectures Upon the Principles of Surgery, by Chas. B. Nancrede, M. D., published by W. B. Saunders & Co. 59
Notes on the Modern Treatment of Fractures, by J. B. Roberts, M. D., published by D. Appleton & Co. 59
Annual and Analytical Cyclopedia of Practical Medicine (Vol. IV.) by Chas. E. de Sajous, M. D., published by F. A. Davis & Co. .. 59
A Manual of the Practice of Medicine, by A. A. Stevens, M. D., published by W. B. Saunders & Co. 60
American Year Book, Now in Two Volumes 60
The International Medical Annual for 1900 60
The American Text-Book of Surgery, Edited by Wm. W. Keen, M. D., LL. D., and J. Williams White, M. D., Ph. D. Published by W. B. Saunders & Co. 115
A Text-Book of Diseases of Women, by Charles B. Penrose, M. D., Ph. D. Published by W. B. Saunders & Co. 115
American Year-Book of Medicine and Surgery, Edited by George M. Gould, M. D. Published by W. B. Saunders & Co. 115
Essentials of Surgery, by Edwin Martin, A. M., M. D. Published by W. B. Saunders & Co. 115
Scattered Leaves from a Physician's Diary, by Albert Abrams, A. M., M. D. Published by Fortnightly Press Co. 115
The Anatomy of the Central Nervous System of Man and the Vertebrates in General, by Professor Ludwig Edinger, M. D., Frankfort-on-the-Main, translated by Winfield S. Hall, Ph. D. Published by F. A. Davis & Co. 116
The International Medical Annual and Practitioner's Index. Published by E. B. Treat & Co. 164
Elements of Clinical Bacteriology, by Dr. Ernst Sevy, Strasburg. Published by W. B. Saunders & Co. 164
Essentials of Diagnosis, by Solomon Solis-Cohen, M. D., and Augustus A. Eshner, M. D. Published by W. B. Saunders & Co... 164
Fractures, by Carl Beck, M. D. Published by W. B. Saunders & Co. 224
Atlas and Epitome of Special Pathological Histology, Concerning Circulatory Organs and Gastro-Intestinal Tract, by Dr. Hermann Durk. Published by W. B. Saunders & Co. 224
General and Local Anesthesia, by Aime Paul Heineck, M. D. Published by G. P. Englehard & Co... 224
The Student's Medical Dictionary, by Geo. M. Gould, A. M., M. D., published by P. Blakiston's Son & Co. 269
Manual of Diseases of the Eye, by Chas. H. May, M. D., published by William Wood & Co. 269
A Manual of Syphilis and the Venereal Diseases, by James Nevins Hyde, A. M., M. D., published by W. B. Saunders & Co. 270
Rhinology, Laryngology and Otology, and their Significance in General Practice, by E. P. Friedrich, M. D., Leipzig, translated by Holbrook Curtis, M. D., published by W. B. Saunders & Co. 270
A Text-Book on Diseases of Women, by Henry J. Garrigues, A. M., M. D., published by W. B. Saunders & Co. 270
Modern Surgery—General and Operative, by John Chalmers DaCosta, M. D., published by W. B. Saunders & Co... 270
Clinical Examination of the Urine, and Urinary Diagnosis, by J. Bergen Ogden, M. D., published by W. B. Saunders & Co 271
A Text-Book of Pathology, by Alfred Stengel, M. D., published by W. B. Saunders & Co. 271

CONTENTS VOLUME II.—CONCLUDED.

A Text-Book of the Practice of Medicine, by James M. Anders, M. D., Ph. D., LL. D., published by W. B. Saunders & Co. 271
Modern Medicine, by Julius L. Salinger, M. D., and Frederick J. Kalteyer, M. D., published by W. B. Saunders & Co. 271
Saunders' Pocket Medical Formulary, by Wm. Powell, M. D., published by W. B. Saunders & Co. 272
Surgical Pathology and Therapeutics, by John Collins Warren, M. D., published by W. B. Saunders & Co. 272
Saunders' Question Compends, "Essentials of Histology," by Louis Leroy, B. S., M. D., published by W. B. Saunders & Co. 272
A Review of Recent Legal Decisions by W. A. Purrington, Esq., published by E. B. Treat & Co... 272
A Pocket Medical Dictionary by Geo. M. Gould, A. M., M. D., published by P. Blankiston's Son & Co. 272
A Practical Treatise on Materia Medica and Therapeutics, by Roberts Bartholomew, M. A., M. D., LL. D., published by D. Appleton & Co. 273
An American Text-book of Physiology, edited by Wm. H. Howell, Ph. D., M. D., published by W. B. Saunders & Co. 273
Christian Science, by William A. Purrington, Esq., published by E. B. Treat & Co. 273
A Handbook for Nurses, by J. K. Watson, M. D., published by W. B. Saunders & Co. 273
Saunders' Medical Hand-Atlas—Atlas of the External Diseases of the Eye, by Prof. Dr. O. Haab, of Zurich, edited by G. E. de Schweinitz, A. M., M. D., published by W. B. Saunders & Co.. 274
An American Illustrated Medical Dictionary. By W. A. Newman Dorland, A. M., M. D. Published by W. B. Saunders & Co......... 298
Sexual Debility in Man. By F. R. Sturgis, M. D. Published by E. B. Treat & Co...................... 298
The Treatment of Fractures. By Charles Locke Scudder, M. D. Published by W. B. Saunders & Co.... 299
Atlas and Epitome of Diseases Caused by Accident. By Dr. Ed. Golebiowski. Published by W. B. Saunders & Co................. 299
Annual and Analytical Cyclopædia of Practical Medicine, Vol. V. By Charles E. de Sajous, M. D. Published by the F. A. Davis Company. 299
A Text-Book of Histology, Including Microscopic Technic. By A. A. Bohm, M. D. Published by W. B. Saunders & Co................. 299
The International Text-Book of Surgery. By American and British Authors. Published by W. B. Saunders & Co............. 300
Atlas and Epitome of Gynecology. By Dr. Oskar Schaeffer. Published by W. B. Saunders & Co.. 300
A Manual of Personal Hygiene. Edited by Walter L. Pyle, A. M., M. D. Published by W. B. Saunders & Co............................ 300

MISCELLANEOUS.

The Boer Hospital Service 8
The Hospital Ships of South Africa 8
To Cure a Cold 9
How to Abort a Cold 9
Remarks on Modern Foot-Wear (Illustrated) 9
Ointment for Finger Nails 9
The Fundamental Principle of Suggestion 11
To Prepare Manuscript, a Poem.. 11
Dangers of Hypnotism 17
A Physician's Bulletin Board 18
Health Hints, a Poem 18
A Terrible Warning 18
A Terrible Warning 18
Headache 18
Obstinate Hiccough 20
A New Ovary 20
An Artificial Jaw 23
Typhoid Fever among Our Soldiers in the Late War 25
Surgical Suggestions 26
Surgical Use of Cocaine 26
Milk as an Antidote 26
The Distribution of Medicine Samples 27
Solid Food in Typhoid Fever 27
Paraform for Warts 27
Cure for Goiter 82
Laxatives—Time of Operating 32
After an Abortion 82
Cure for Hiccouph 82
A Physician of Ancient Armenia .. 39
Gravitation and Heat 42
A New Series of Drugs 42
Nasal Inhalation of Oxygen 42
A Novel Maternal Impression 47
Jaws fastened together for Treatment 47
School Doctors in Germany 47
An Insidious Adulterant 47
Hot Water Drinking 53
"Are Acquired Habits Inherited?". 54
Treatment of La Grippe 76
To Expel Tapeworm 79
Test for Pus in Urine 85
Collodion for Pruritits Ani 85
A Little Baby........ 93
Assimilation of Foods 96
The Sleeping Woman of Thenelles, France 96
To Destroy Pin Worms 103
The Clinical Thermometer as a Germ Carrier 107
Radium—A Rival Light of the X Ray 116
Bacillus of Dysentery 116
The Healer (a Poem) 130
Yaws and Small Pox 131
Mysticism among the Negroes 133
Typhoid Fever and Water Supply. 135
Milk Leg as a Sequel of Typhoid Fever 138
The Diagnosis of Carcinoma of the Intestines.. 139
A New Method of Sterilizing Catgut 139
A Physician Punished for Incapacitating Recruits 140
Bee Poison for Abortion and Sterility 153
The Effects of Cocaine 156
Surgical Hints 156
Elective Affinities of Microbes for the Tissues 156
Fluorescent Screens 156
Systematic Treatment of the Consumptive Poor 159
Preservation of Rubber Articles .. 162
Shock and Its Surgical Significance 163
To Control High Temperatures 163
An Eloquent Tribute 163
Prevention of Death from Chloroform 163
How to Treat Post-Partum Hemorrhage 170
An Excellent Mouth Wash 170
Prevention of Mold 170
The Injection and Operative Treatment of Inguinal Hernia 175
Permanganate of Potassium as an Antidote 175
Logwood for Rheumatism 175
New Officers for the North Dakota Medical Society 179
Hamline Medical Graduates 179
Manufacture of Deadly Drugs 179
Falling Hair 179
Successful Financiering 179
The Technique of Lumbar Puncture 181
The Poison of Reptiles 182
A Plea for the Radical Treatment of Hay Fever 183
The Latest Don'ts 183
Some of the Causes and Effects of Mouth Breathing 184
Castor Oil in the Treatment of Neuralgia. 184
Chronic Eczema 184
Treatment of Hemorrhoids 184
Yet Another Remedy for Sea-Sickness 184
The Celestial Surgeon (a Poem).... 222
Heroic Treatment for Soft Corns.. 222
Manila Saloons 223
Malignant Diseases of the Skin 225
Gasoline as a Detergent 226
Changes in the Joints after Traumatic Lesions of the Cord 227
The Treatment of Typhoid Fever .. 227
The Fallacies of X-Ray Diagnosis 228
The Proper Time to Begin the Treatment of Cross Eyes 228
Amputation and Longevity 229
The Origin of Life 229
The Treatment of Empyema 230
Climate and Diseases of China 230
Transfusion 231
Fifty Years of Deaf-Mutism—Hearing and Speech Restored through a Fall 232
Antistreptococcin for Erysipelas ..232
Hedonal for Insomnia 232
To Mask Quinine 247
Speech—a Poem 251
A Most Remarkable Operation in the Separation of the South American Freaks (Illustrated) 254
The Name of God in Forty-eight Languages 256
Prize for Essay 258
The British Congress on Tuberculosis 263
The New York State Hospital for Consumptives 263
Death from Lightning 263
Painless Coaptation of Small Cuts or Lacerations, by A. N. Besseson, M. D. 265
A Chinese Coal Deposit 265
A 250-Pound Magnet 265
Anesthesia by the Injection of Eucain B into the Spinal Cord, by Edward A. Rich, Ph. B., Philadelphia 266
Island of Sassari Freed from Mosquitos 266
Pan-American Exposition, at Buffalo 267
Parvules 267
Professional Tact and How to Acquire It 274
Adrenal 275
Fistulo in Ano 275
The Moving Picture in Medicine and Sugery 275
The Serum Treatment of Tuberculosis 276
An Alleged Cause for Appendicitis 287
One More Case of Apyretic Membranous Croup.. 294
Thiosinamin for Removing Scar and Other Skin Lesions............ 294
Signs of Unsuccessful Nursing in the Infant 295
New Officers of the St. Louis Academy of Medical and Surgical Sciences 297
The New Detention Hospital of Minneapolis 298
Sleep Without Drugs. One Hundred Dollar Prize.................. 298

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, JANUARY, 1900. No. 1

Original Articles.

*DIAGNOSIS OF DISEASES OF THE RECTUM AND ANUS.

By C. M. Ferro, M. D., Minneapolis.

I desire to call your attention to certain rules and methods that should be employed in the examination of rectal and anal affections, with a view to a correct diagnosis. Nearly all these affections are inclined to be chronic in their nature, but fortunately they tend to a satisfactory recovery if treated in an intelligent manner. For often these diseased conditions are regarded with indifference, at least very often no pains-taking methods are followed to ascertain their true character.

Nearly all rectal and anal troubles are regarded by the laity as piles. The patient presents himself to the practitioner, asking relief for "piles." The doctor accepts the diagnosis and prescribes an ointment or suppository, but should the patient apply for relief of some disordered condition of the nose, throat, ear, or eye, the case will, undoubtedly, receive careful consideration before any line of treatment is advised. I have been called to operate on piles, which, upon examination, proved to be cancer. Patients, frequently from feelings of modesty, are reluctant in having these parts examined, but they will usually consent to this procedure when they are told that no satisfactory treatment can be employed until the true nature of their malady is definitely established.

There are a great many symptoms and conditions to be considered in arriving at a correct diagnosis. A great deal of information can be gained from the patient if intelligent and observant. Corroborative proof and further knowledge of the complaint can only be elicited by careful investigation of the parts. The data obtained from the patient will refer to pain, discharges, character of stools and protrusion, if any, whether there is incontinence of urine or feces, constipation or diarrhoea, shape and form of stools.

Pain may be of all degrees, from a slight uneasiness to that of an intolerant character, and may occur in hemorrhoids, fissure, fistula, abscess, stricture, ulceration and cancer. Internal hemorrhoids, as a rule, are not accompanied by much pain, unless inflamed or strangulated. Sometimes the contraction of the sphincter muscle will occasion sharp, stabbing, pricking pains. External hemorrhoids are always painful. The pain in fissure of the anus is paroxysmal in its character, occurring at stool or soon after, or possibly not for some hours after. It is frequently excited by some sudden movement of the body, as in the act of coughing or sneezing. It may also occur when the body is in a completely passive state, awakening one from a sound sleep. The pain of ulceration, when situated low down, is inclined to be more constant, as well as that of cancer, which is of an intense burning character. In abscess and in fistulæ that have become temporarily occluded at their outlets, Pruritis Ani, which is, in fact, a modified form of pain, is generally caused by some diseased condition within the bowel, or irritation of cutaneous tags and eczema.

Protrusion will indicate hemorrhoids, polypus prolapsus or procidentia. The discharge may consist of blood, pus, mucous or a modification of any of these. A discharge of blood may be associated with all rectal complaints and does not, therefore, aid in arriving at a definite diagnosis. Pus may be found in abscess, fistula, suppurating hemorrhoids, it is sero purulent in fistula, cancer, stricture with ulceration, sero-saguineous in cancer, mixed with coffee-ground material. The odor from the discharge of cancer of the rectum is frequently of an intolerant character, so much so, that prominent writers have considered this an important element in differential diagnosis. Discharge of mucous may signify proctitis or polypi, but it is more likely to be associated with stricture and hemorrhoids.

The countenance of the individual should be noted. Anemia, if there is any rectal ailment, will likely be the result of hemorrhage from hemorrhoids, or it may be associated with tubercular or syphilitic ulceration of these parts. Cancer produces the cachexia peculiar to that malady. Heredity plays no part in the development of rectal ailments.

Frequency, consistency and form of stools, constipation and diarrhea may be associated with all rectal ailments, but they are of special importance when considering the existence of fibrous stricture and cancer. In the early stages

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*Read before the Minnesota Valley Medical Society, December 5, 1899, at Mankato, Minn.

of either malady there is constipation, and, in fact, the later stages, too, for the diarrhea consists of muco-purulent material. Above the stricture there is an accumulation of feces. Fecal impaction may exist in the rectum with no evacuation of the bowel for two or three weeks. The stools may be small in shape on account of a rigid contracted sphincter, the result of fissure, or in consequence of a stricture low down near the anus.

Having gained any of the preceding information, the practitioner should proceed to confirm it by making an ocular and manual inspection of these parts. Of all means the surgeon can summon to assist him in the diagnosis of these complaints, the sense of touch by the use of the index finger is the most valuable. If possible, the contents of the lower bowel should always be evacuated before making any digital or instrumental examination. The patient should be directed to lie down on the side, assuming the Sims position. This is usually the most advantageous position for examination, though when the ailment is located in the upper part of the rectum it may be required in some cases to have the patient on his feet in a slightly stooping posture. The surgeon introduces the finger into the bowel, the patient is requested to bear down, while at the same time an assistant presses upward against the elbow. This will enable the finger to come in contact with the tissues higher in the bowel than could otherwise be effected. The patient having assumed the desired position, lying on the side the surgeon seeks for any evidence of disease about the anus or adjacent parts. It goes without saying that a good light, either artificial or natural, is necessary. Old scars, discolored spots, orifices of sinuses, external hemorrhoids, cutaneous tags, condylomata, a nipple-shaped anus indicative of cancer at the outlet of the bowel, may be seen. The nates are separated by placing the hands with the fingers firmly pressed against the sides of the anus, at the same time requesting the patient to bear down. This brings into view a half inch or more of the mucous membrane of the bowel for inspection. In women who have born children, the finger may be introduced into the vagina, pressing downwards and upwards everting the anterior rectal wall. The finger should be lubricated with vaseline or some unctuous fatty material. Never use soap as a lubricant, as it is excessively irritating in some cases, and does not protect the finger from possible infection or from the presence of an unnoticed hangnail; besides it is difficult to remove the fecal odor that clings to the finger when soap is used.

The finger, with practice, can be made competent to detect nearly every diseased condition to which these parts are liable, the hardened ridges beneath external tegument indicating the tracks of sinuses, their external and internal orifices, external piles and cutaneous tags, condylomata, a rigid, irritable and hypertrophied sphincter, indicating an anal fissure or ulcer, enlarged papilla, ulceration, polypi stricture, malignant and non-malignant ulceration and firmly organized piles.

There is one condition, the commonest of all rectal ailments, which the finger is incompetent to define, viz: internal hemorrhoids that are soft, compressible and varicose in their nature. It may be necessary to explore the bowel in its highest parts. The metallic sound was formerly used a great deal for this purpose. It is an unsafe instrument and even in the hands of experienced men it has been forced through the rectal walls, producing fatal peritonitis. In the place of this instrument the flexible, soft, rubber bougies are to be employed, and even then must be used with great caution and gentleness. The rectal walls are often extremely fragile in stricture with ulceration. In case of fistula, the rectum should be carefully examined, for it is often associated with stricture. The rectal speculum is an instrument that should be used with great gentleness. At this day it is quite the proper caper to conduct examinations with a view to the moral effect they may have on the patient. This is one of the instruments that cannot be used for this purpose, for the patient must indeed be unusually pious who does not say, or at least think, "damn" when one of these instruments of torture is thrust into a painful and excessively sore anus or rectum. There are many speculums, the majority of them only fit to be used when the patient is placed under an anesthetic. For ordinary use the duck-bill and Cook's three bladed, are the best.

My friend, Dr. A. W. Abbott, has devised a speculum that possesses a great deal of merit. With the patient lying on the side, with the hips well elevated, and the aid of reflected light and a retractor, the rectal walls may be inspected quite up to the sigmoid flexure.

Having very briefly alluded to the methods that should be observed in arriving at a diagnosis of an ailment situated in these parts, permit me to still occupy a little more of your time in referring to the most salient points that may be considered important elements in differential diagnosis. I am sure that what I have said or will say may be considered commonplace by men of years of experience. To the young practitioner I hope it may prove helpful when called to examine these affections.

Now, as regards hemorrhoids: Briefly, there are three forms, external, internal and a kind that may be termed extero-internal.

External hemorrhoids are situated on the margin of the anus entirely without the bowel. They have no mucous membrane covering them. They are bluish-purple in color, as they are composed of a clot of blood occasioned by dilation and partial or complete rupture of a vein. Hence they are frequently termed thrombotic hemorrhoids.

The internal are situated within the bowel, unless prolapsed, and are covered with mucous membrane.

The third mentioned form are partially covered with true skin and partly with mucous membrane. To determine whether hemorrhoids are external or internal, the parts may be lubricated while an attempt is made to push them into the bowel, requesting the patient to bear down. If they can be replaced they are internal. The third variety should always be dealt with as though they were internal.

There is a condition which consists of hypertrophied integument about the margin of the anus, which is termed incorrectly cutaneous hemorrhoids. These tags or flaps sometimes become inflamed and are then a source of annoyance and distress. They are, if multiple, inclined to excite no little itching and constitute one of the conditions called by the laity itching piles. There is still another cutaneous affection located at margin of the anus and adjacent to it, known as condylomata, consisting of patches raised above the level of the skin. They have a pink granular surface that emits a thin, fetid secretion that once it greets the olfactory sense is never forgotten. They develope slowly and ought not to be confounded with external piles, which come on very quickly while the former are very slow in their development.

Prolapse of the bowel may be mistaken for rectal polypus. Prolapse of the bowel is strictly a protrusion of the mucous membrane outside of the anus, having no hemorrhoids attached to its surface. It may be only a side of the bowel or it may include the entire circumference. It may be distinguished from polypus as the latter is pedunculated and the finger pushing up the mass can easily detect the pedicle.

Fissure of the anus can hardly be mistaken for anything else, though it has been confounded with fistula. It is a fact that it may be overlooked in certain cases when it is concealed beneath folds or rugae of the anus and will require close scrutiny to reveal its existence. A rigid, painful, irritable sphincter that manifests great intolerance to the finger, will at once suggest the likelihood of its presence. Some cases are so excessively painful that the victims of this condition will not permit any digital examination without an anesthetic. It should not be forgotten that retention of urine, painful micturition and other reflex symptoms may be concomitant.

Fistula is not likely to be mistaken for any other condition save the one just considered, but it is sometimes difficult to determine whether a given sinus which has an external orifice opens into the bowel or at least where the internal orifice is situated. A complete fistula will, of course, allow gas to escape from the bowel. It should be remembered that the majority of fistulæ open into the bowel in the first half inch. It is usually necessary to bend the probe in order to get it to follow the course of the sinus. The finger ought not to be introduced into the bowel until the probe has found its way through the sinus. The introduction of the finger will excite contraction of the sphincter and alters the course of the fistula. The trained finger can usually detect the orifice without the aid of the probe. It need scarcely be mentioned that the probe must be manipulated with a delicate hand, as it causes no little distress.

Cancer of the rectum and non-malignant stricture are liable to be mistaken one for the other. Pages might be written with reference to the differential diagnosis of these maladies. I will very briefly allude to the most important factors that may guide one in establishing a correct opinion.

Cancer rarely affects the young. It is usually within reach of the finger, which is able to detect a nodular roughened infiltration on one side of the bowel, or it may be uniform encircling the rectum. Evacuation of the bowels becomes painful and difficult quite early in its history. The pain is of a burning, boring character and persists long after the act of defecation. The general health speedily gives evidence of its baleful influence. Diarrhea and constipation may alternate. There is a discharge of mucous which soon becomes tinged with blood, later on purulent and finally a dark, grumous fluid, the so-called "coffee-ground discharge." Many victoms at first apprehend they are suffering from dysentery and are treated for that disease, especially when the trouble is situated high up out of reach of the finger. This may be considered an important element of diagnosis. Enlargement of the inguinal glands will take place if the trouble is situated at or near the anus. If it is beyond the first inch and a half they are not involved. It is then the deeper glands that are affected. Hemorrhage is likely to occur early, especially after examination, and may be for some time persistent. Hemorrhage wthout the presence of piles should always excite suspicion.

Non-malignant stricture may affect any age. It is almost always situated in the lower two inches of the bowel, is usually anular and smooth to the touch. Defecation is not painful in the early stages. It is of slow development and does not early affect the general health. Hemorrhage is not likely to occur until ulceration takes place. Diarrhea then becomes troublesome. A discharge of mucous is a persistent symptom.

Ribbon-shaped feces, of which so much is written, are not assumed unless the stricture is near the anus. Abscess and fistula are frequently associated with this form of stricture. There is very often a history of syphilis. The anus is likely to be patulous and almost resistless in cancer and stricture. This is an important symptom in stricture or cancer. Non-malignant and cancerous stricture may be mistaken for intussception of the rectum. There is a condition of excessive discharge of mucous. The finger can detect the cul de sac by keeping it close to the sides of the rectum and pushing upwards, while the patient is standing in a slightly stooping posture and makes an effort to force the parts downward.

In conclusion, it should not be forgotten that diseases of the uterus, bladder and prostate may simulate rectal ailments, nor that diseases of the rectum often excite symptoms of derangement in adjacent or even remote organs.

404 Masonic Temple.

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*INTESTINAL OBSTRUCTION FROM BILIARY CALCULI.

By J. Wesley Bovee, M.D., Clinical Professor Gynecology, Columbian University, Washington, D. C.

Intestinal obstruction has been observed and written of since the days of Hippocrates, still it retains its mysteries for the disciple of Medicine. Its causes are so numerous, its symptoms so varied and its fatality so great that necessity for apologizing for presenting this paper is not felt, though but one of its many phases, gall stone obstruction, is to be considered.

FREQUENCY.

Intestinal obstruction from biliary calculi is very uncommon. Brinton found in 500 cases of intestinal obstruction but 24 cases due to gall stones and Leichtenstern found but 41 in 1541 cases of bowel occlusion. In the Manchester Royal Infirmary but one case in 50,000 patients treated for all troubles, was found. As it is a condition practically limited to late life its rarity is to be expected.

VARIETIES.

The obstruction is usually, though not always due to actual blocking of the intestinal lumen by the stone. A localized peritonitis in the region of the gall bladder may paralyze the bowel in that vicinity, causing obstruction for a short time, but usually ending in recovery. Twisting of the small intestine may result from biliary colic and occlusion may be produced from the vigorous contortions of the bowel incident to its containing a gall stone. Again, after the stone has passed, peritonitic adhesions may result in complete occlusion. The healing of a large cystico-duodenal fistula may cause such narrowing of the bowel that nothing can pass it.

Large calculi nearly always reach the intestine by the formation of a fistula between the gall bladder and the duodenum. This opening, of necessity, is often of great size—even large enough to admit the insertion of four fingers and its constancy as shown by autopsies and laparotomies for intestinal obstruction from gall stones argue very strongly for this pathological process; Rokitansky and Abercrombie, however, believe the largest stones found in the intestine can pass through the bile duct. These stones ulcerate also into the peritoneal cavity, the colon, the stomach, the urachus and thence to the bladder, being expelled par urethram, through the abdominal wall, and it is supposed, even through the kidney and the lung. The fistula between the bowel and gall bladder usually connects with the duodenum above the outlet of the ductus communis choledochous.

LOCATION.

Leichtenstern collected thirty-two cases in which the site of obstruction was seventeen times in the lower part of the ileum, ten times in the jejunum and in the middle of the ileum five times. A few times the stone has been found wedged tightly in the ileocecal valve. The gradual lessening of the bowel diameter from above downward to the valve together with the relative fixation of the lower part of the ileum by its short mesentery, would seem to explain the comparative frequency near the valve. Two stones obstructing the bowel at different places have been found at autopsies even in cases operated. At other times the obstruction has been relieved and the trouble been later repeated at nearly the same site by another stone. The rectum has been obstructed by gall stones, probably from pre-existing pathological conditions of the bowel, by deposits on the stone in the bowel or by the direct passage of stones from gall bladder to colon.

CAUSES.

The question of aetiology of gall stones and why they are expelled into the bowel is purposely avoided in this paper. Consideration will be given only to the reasons for occlusions resulting from their presence in the bowel. Gall-stones of diameters less than one inch no doubt can be passed through the whole length of the bowel without serious annoyance to the individual, but as the small intestine is usually entered at its largest part by the stone which is urged along through a canal having a decreasing caliber (the ileum is 1¼ inches wide, the jejunum 1½ and the duodenum is larger) it finally reaches a point beyond which it cannot be forced. Then, too, in late life the muscular tonicity of the bowel is lessened, hence the propulsive power of it is lessened. Adhesions and from former peritonitis and other conditions, formerly mentioned in speaking of the varieties, also properly belong under the head of causes. No satisfactory explanation has been given for the successful passage of large gall stones and fatal obstructions from others of about one-fifth the size. Disproportion in the size of the intestinal canal or difference in the general scale of individuals may in a measure account for it where other conditions are absent. Women seem to be afflicted with this trouble four times as often as men.

I have had the good fortune to see one case —fortunate in experience and result, as the patient recovered without operation. The history of it is as follows:—

Mrs. D—, white, aged 44 years, multipara, was seen August 9, 1897, in answer to an urgent summons. Previous health had been good, al-

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*Original abstract of paper read before Mississippi Valley Medical Association in Chicago, Ill., October 4th, 1899.

though troubled very much from chronic constipation. The previous evening had eaten a hearty supper, including green corn, of which she was very fond and later had danced considerably, retiring about midnight. Later in the night was attacked with colicky, abdominal pains accompanied with almost incessant vomiting, a chill and collapse. Her husband, a physician, attributed attack to the corn and administered morphia hypodermically and repeatedly. The patient was found to be a large woman, weighing more than two hundred pounds and having the largest abdomen I had ever seen, which was very pendulous and had very thick walls. The morphia had rendered her comfortable but the examination was unsatisfactory on account of tenderness and thick wall. Calomel was ordered, although during the day she had had two loose stools. I next saw her August 12th, being called again, when I learned the bowels had not moved since the 9th, notwithstanding salines and purgative enemata had been administered. Pain and bilious vomiting were marked; the pulse was 100 and the temperature 99. Large enemata in the knee chest position were now ordered. Again that evening with two consulting surgeons it was agreed that with no improvement by morning abdominal section would be done. The large enemata, about one gallon at a time, were continued every four hours and about midnight she received the last one as a few minutes later she passed by the rectum an ovoid cholenterine gall-stone measuring 1¾ by 1¼ inches in diameter and 3¾ and 4½ inches in circumferences. Its weight was just 200 grains. The vomiting ceased immediately and the soreness and general depression soon passed away with complete recovery.

SYMPTOMS.

A history of jaundice, biliary colic or other local phenomena usually antedates obstruction, but the symptoms are by no means indicative. They will, however, often approximately locate the site of obstruction. If the obstruction is high in the small intestine the vomiting begins earlier and assumes the biliary variety; the degree of distension is less, and, early in the attack, in favorable cases, a tumor at the seat of trouble can be felt. Later the tenderness is so marked that examination of the abdomen is extremely unreliable. The distension is much greater if the colon be occluded and the vomiting becomes more stercoraceous. Movements of the bowel after the beginning of the attack may prove misleading, as the intestine below may be emptied without relief to the real trouble. As to the location of the distension there is little of practical value known. Fever and high pulse rate indicate structural changes, such as necrosis of the intestinal wall and localized peritonitis. The persistent vomiting of fluids with no absorption of any to replace it causes a marked decrease in the amount of urine eliminated. The degree of decrease seems to be relative to the closeness of the seat of obstruction to the stomach. The shock incident to the condition probably acts similarly.

The size of the calculus is of interest. Some have been successfully passed through the bowel weighing as much as 493 grains, while fatal obstruction has resulted from a calculus the weight of which was but 100 grains. Their shape is usually pyriform or ovoid. Skiagraphy has thus far proven unreliable in diagnosis.

PROGNOSIS.

The result of any form of treatment in acute intestinal obstruction is not pleasing. When due to gall stones the mortality ranges from 44% to 74%. Until it is recognized as a surgical affection from the first and prompt abdominal section done the results will not improve. Resorting to early laparotomy ought not to be attended by a mortality higher than ten per cent.

TREATMENT.

Various remedies have been employed. Hippocrates, and later, others recommended injection of air into the bowel. Tobacco smoke and infusion and different gases have been thus employed. Purgatives are positively harmful. Morphia and Belladona are the two best drugs in this condition. Of course, electricity has not been omitted. With medical treatment nearly half recover, but is that a sufficiently large proportion? In 1672 Barbette recommended laparotomy for acute intestinal obstruction, and as abdominal surgery is now practiced its use in acute obstruction of the bowel from biliary calculi should give brilliant results. Medical treatment may be used for a short time, and, failing, should be superceded by laparotomy, with a careful exploration of the abdominal and pelvic contents. The seat of obstruction being found, the condition of the patient and the degree of mobility of the stone in the bowel will guide the operator in the subsequent steps. The plan of Tait,—passing a strong needle obliquely through the bowel wall into the stone to break it up may first be tried, the puncture wound being closed by a Lembert stitch. This failing, the stone should, if possible be pushed higher in the bowel and a longitudinal enterotomy done with extraction of the stone. Gangrenous bowel, perforations, or localized peritonitis, with or without pus, should be treated secundum artem. It is always well to look for a second obstruction, as this has caused death in some cases. The deaths following laparotomy for this condition are nearly always from shock or sepsis, a strong argument for early operation. It would not seem improbable that early laparotomy in these cases should have a mortality of less than ten per cent.

It is a curious fact that George Washington drew his last breath in the last hour of the last day of the week, in the last month of the year, in the last century, dying on Saturady night, at twelve o'clock, December 14, 1799.

*ADVERTISING IN THE MEDICAL PROFESSION.

By Charles T. McClintock, M.D., Ph.D., Detroit, Mich.

This paper has to do with advertising in the profession only. The advertising done by persons who make a business of medicine I shall not consider. I may have given too broad a meaning to the word "advertise." I have used it to include all those means, the intent of which is to call the attention of the public or the profession to the user.

In order to practise medicine one must have patients to practise on. How may they be obtained? I believe it to be true that in obtaining a practice one's social qualifications are of more importance than one's ability. Undoubtedly the great successes in medicine come to the great men in medicine, to those peculiarly endowed by nature or fitted by training for their work. But taking average men and average success, I doubt if the best of them succeed best. Each of us can recall not one but numerous instances of capable men who go through life with a very limited practice, while across the street, it may be, some ignorant pretender has and keeps a large practice. Probably in no business, certainly in no profession, are the people so incapable of choosing the good from the poor as in the choice of a physician. Witness the success of the Christian scientist, the eclectic, osteopath, homeopath, and the whole brood of medical pretenders.

That medicine is a sort of magic art the people do and will believe. Go into any community and vehemently claim that you can cure cancer, consumption, or syphilis and you will get patients. Claim publicly or in private that you have unusual skill, can do marvels, and you will find hearers. In any way, get and keep your name before the people, and you will have patients. Barnum, the showman, used to say that he didn't give a ——— what the papers said, so they said Barnum. It is much the same in medicine; hence the field for the advertiser. Claim ability, claim success, and there will be those who believe.

Many of the physicians whom I know are giving more time and thought to the securing of patients, advertising, if you choose, than to the study of their profession. I know a number of young fellows who are rusting in medicine because their time is taken up in advertising—lecturing in medical colleges, attending medical societies, not to learn but to become known. They join the churches, the lodges, the clubs, speak whenever and wherever there is opportunity, laboriously prepare papers for the society and the press, papers whose weight of commonplace all but make the type groan.

I am honest in the belief that in my city, Detroit, there has not appeared in the last year a medical paper that is worthy of the second reading, or one worth filing away for future reference. I am privileged to say this, having published several papers myself during the year, yet our mails carry literally tons of advertising matter in the form of reprints.

We have some prominent men who customarily send out 5,000 reprints of their papers, papers appearing in little, obscure journals. Others among us scatter broadcast illustrated papers showing the "before and after taking" of orthopedic surgery. Still others kindly remember the school-marms with their reprints on subjects in which children figure. These are reputable men, college men, members of our medical associations, prominent men in the profession.

Probably the most skillful advertisers in the profession are to be found among those sitting in high places, the college professors. On the one hand the professor, on the other the public. The student, the physician to be, is the go-between, and how he does work that student for patients in the years to come. One of the favorite methods is to take the latest foreign work on the subject to be taught and give it to the student almost verbatin as "in my opinion," "my experience," "I believe,"—and it succeeds, as is evidenced by the ever-increasing number of medical colleges which do not pay a dollar in salaries and the clamor for positions on the faculties of our medical schools.

I need only to mention the sanitarium, perhaps the most transparent fraud on the code that we have. Have a sanitarium and you can advertise in the street-cars. Our code of ethics and our practice presumes that the people are fit judges of the physician's ability. I hold that this is not true. Were it true the quack and the advertiser would disappear. In law, if an attorney is weak, if he makes mistakes, if his opinion is not well-grounded, his associates at the bar delight in the opportunity to expose his mistake or weakness. The weakling is driven to the wall.

In the ministry the sermon is criticised; the man is compared with others of his profession; the people can judge.

But in medicine how is it? To the people the doctor must always approve of his colleague. You are called in consultation with Jones; you are sure he has blundered in his diagnosis and utterly failed in his treatment, yet the unwritten code compels you to praise Jones to that family; to assure them that the case has been skillfully handled. Kill your patient through ignorance or clumsiness and you can easily get the best consultants in the town to assure the family that it was heart-failure. Probably we have all known of such cases.

In our local medical socities it is customary after you have been bored for half an hour listening to a poor, commonplace paper, to address the society with: "I have been much interested

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*Read before the American Academy of Medicine, Columbus, O., June 5, 1899.

in the doctor's very thoughtful paper. I am sure we have all profited."

Now not for a moment am I forgetting the gain that comes to the profession from our dignified, courteous treatment of each other. Neither am I arguing that another way would be the better. I am merely pointing out some of the evils that follow from our methods. As a profession we here encourage and there allow such practices, that to the people there is nowhere to be seen a line of demarcation between the reputable and the disreputable physician; between the William MacClures and the veriest quack. We blame the people when they choose wrongly and yet we offer them no assistance in making their choice. We petition the legislature to step in and kill the weeds which we have permitted to grow. Abuses often arise because the laws of a profession or the state of society do not fit the times. Custom allows their slight transgression. This means license for him who chooses to make of it such.

I believe the code was adopted in 1846, 53 years ago. At that time we had few cities; 95 per cent. of physicians practised in small communities. There was no necessity for his trying to make known his ability or qualifications; he couldn't help becoming acquainted; his success or failure with his cases was known to all the neighbors. People then, as now, in our backwoods communities, talked much of sickness, symptoms, and death. There is a growing tendency to-day to regard illness as a personal, private matter—a something to be hidden from, rather than paraded before, one's friends and neighbors.

Contrast these conditions with those that will contront the young practitioner to-day in any of our larger towns or cities. Let him be well trained, of fair ability, a competent physician. Let him devote all of his energy to the practice and the study of his profession. Let him do none of those things, the intent of which is to advertise himself. I believe that in the average case he will be 50 years old before he has a fair practice. Near by, be it in your city or mine, he will see a number of men who have secured and retained large practices through what might be termed ethical advertising; at least they are in the profession, in our medical societies, write for our journals, and teach in our schools.

Need we wonder if, under such conditions, the young M.D. is tempted to forsake the way of the fathers? Are there forces at work which give promise of correcting these evils? I do not see them, with the rapidly increasing knowledge of hygiene among the people, with state and city aid in the avoidance and suppression of pestilence, with our rapidly growing knowledge of the cause of disease, enabling us to limit infection, with better food and shelter, with the increase of office and hospital practice, where one man can do the work of six in house-to-house visits. Given on the one hand conditions that are gradually lessening the need for physicians, and on the other an ever-increasing number of medical colleges adding to their ranks, what must follow? We are often told that these difficulties are to be solved by more rigid requirements, by higher medical education. I do not believe it.

For some years I was connected with the University of Michigan. During that time the requirements were very materially increased, and it was noted that every increase in the requirements, for entrance or graduation, was followed by an increase in the number of students. During the last few years the majority of the medical schools in this country have practically doubled their requirements, and still the number of medical students increases.

We cannot hope to prevent overcrowding in the profession. The best that can be hoped for is to so provide by law and custom that the most deserving shall receive their dues. This will not obtain so long as we have no legitimate way in which the man of ability can make known his qualifications to the people while we permit the pretentious advertiser amongst us to claim merits not his own. As it appears to me, we owe it not only to ourselves but to the people, to the great world of need, to help them some way, somehow in selecting their medical advisers.

*CONGENITAL RECTAL OCCLUSION THE RESULT OF MATERNAL IMPRESSIONS.

By C. E. Worthington, M. D., Mullen, Idaho.

Published in Medical Sentinel, Portland, Ore.

Gentlemen: So much has been said and written about this subject pro and con, that I believe a history of a case that came under my observation nearly three years ago will be of some interest to you.

On December 10, 1896, about 10 p. m., I delivered Mrs. A. of a fine, apparently healthy male child, weight about ten pounds. As soon as born, he cried vigorously, and when put to the breast within a short time, he nursed well, after which he slept the remainder of the night.

On my visit the next morning, about 8 o'clock the nurse informed me the baby had passed water during the night, but had voided nothing from the bowels. This I found to be true, as there was no opening at the site of the anus, neither was there any bulging at the site of the anus, as a result of an accumulation. I directed the nurse to note the condition and summon me, if there appeared any distention, promising to return late that afternoon; this I did, when there was still no distention at the site of the occluded anus, but the nurse informed me that the urine passed was a very thick, dark brown color, and had a distinct fecal odor. At this time there was a slight bulg-

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*Read before the Idaho State Medical Society, Oct. 5, 1899.

ing just above the crest of the ilium. There were no indications that would justify an operation at the normal site of the anus, the condition of the child being such that I believed the entire rectum was closed by agglutination, up to and through the sigmoid flexture. A small fistulous opening extending into the bladder, was indicated by the decided fecal oder given off by the urine, and this led me to conclude that an operation, if done, should be a colotomy just above the crest of the ilium, where the slight bulging that I have heretofore referred to, existed. After thoroughly considering the operation, and admitting the limited chances for it to be successfuly done, and that if, perchance, by an operation, the life of the babe could be saved, the after results, the discomfort and mortification of an existence with this abnormal condition continuing through life, would be great, I concluded from a humanitarian view that it would be better to forego any attempt at an operation, control any suffering, and let Nature take its course. I communicated mv conclusions to the parents, explaining to them my reasons for reaching such conclusions, in which they agreed with me, knowing the life of the unfortunate babe would soon terminate, which it did four and a half days after birth, a rupture having taken place at the point of bulging, about the crest of the ilium.

The history of this case as outlined to you, is interesting to me, for three reasons: First, the termination of the bowel at the lower end of the descending colon, with the perfect closure of the passage through the rectum, and anus; excepting; second, the fistulous opening extending from the closed pouch, and terminating in the bladder; third, from the fact that the history of the case previous to birth, shows that maternal impressions, if not the entire cause, must surely have played an important part in this case.

That you may more thoroughly understand the latter reason, I will give you the history of the case as briefly as possible:

About the first of August, prior to confinement, or when the mother was about five months pregnant, the family returned home from a trip of several days' duration, and found that at some time during the early part of the day of their return, a young cow had given birth to a male calf, apparently healthy in every particular. A close examination revealed, however, that the calf was minus an anus; the pregnant woman being present when this discovery was made.

Afterwards Mr. A. undertook to form an anus by making an incision through the membranes; in this he was unsuccessful, by reason of not being able to find any opening through the rectum. The calf died four and a half days after birth. Mr. A. then made a post-mortum examination and on cutting down found the rectum perfectly agglutinated for a distance of six inches or more, the adhesions being so firm that the entire distance was more like cartilage.

Mrs. A. did not witness the examination that was made by her husband, but was informed of the result and from this time until the close of her pregnancy, she was firmly convinced that her child would be marked in the same manner as was the calf.

The circumstances in connection with this case would appear to strengthen the theory that abnormal ante-natal results are produced from causes which carry profound impressions on women when pregnant, and that these impressions sometime mark the child. It would also indicate that structural changes may take place, even after the period of development (in utero) is well advanced.

THE BOER HOSPITAL SERVICE.

It would seem that in the present war the Boer hospital service, concerning which much has been said in depreciation, is in reality very well equipped. The Transvaal has the orthodox Red Cross Society and an efficient St. John's Ambulance Society as auxiliaries to the regular military medical corps. The latter is well equipped, although numerically weak. Several railroad trains have been made ready, fitted with swinging beds and all modern conveniences for alleviating suffering. The women of Pretoria and Johannesburg responded nobly to the invitation to do volunteer duty in nursing "for the sake of their Lord and their country," as the pathetic appeal reads. It is said the English nurses have been put out of the hospitals at Johannesburg, the physician in charge insisting that "the English women are not fit to nurse the Dutch."—Medical News.

THE HOSPITAL SHIPS FOR SOUTH AFRICA.

The London correspondent of the Medical News in its issue for November 4th says two Union Cape liners, Spartan and Trojan, have been chartered for hospital ships, and one of them has already been turned into an admirable floating hospital equipped with the latest electric fans for ventilation, sixty-five swing cots so arranged that they can sway with the motion of the vessel or be locked absolutely steady, sisters' quarters, and medical officers' quarters. A most important part of the equipment, of the need of which in tropical warfare our terrible experience before Santiago served as a magnificent object lesson to the civilized world, is a huge carbon-dioxide refrigerating machine capable of turning out half a ton of ice a day. The operating room is placed in a superstructure on the upper deck and is beautifully fitted up with the latest mechanism in operating tables. A complete Röntgen-ray apparatus for the localization of bullets finishes this almost ideal equipment. As the heaviest part of the fighting is expected to occur from within sixty to a hundred miles of the coast, a floating hospital of this description in the sea air will be a perfect godsend to many a poor fellow in the stream of wounded pouring back from the front.—N. Y. Med. Jour.

TO CURE A COLD.

Dr. A. S. Barnes, of St. Louis, in an article in the Interstate Med. Jour., presents the following quick method of curing a cold in the head:

Place the patient in a bath-tub of warm water, the temperature being from 97° to 100°, or as hot as he can stand it without inconvenience, for five minutes. Then roll the patient in warmed blanket, put in bed and heap on covers. Something old must previously be placed under the patient so as not to wet the bed clothes from the sweating. Then give one-eighth of a grain of pilocarpine muriate dissolved in half a glass of warm water. If the patient is weak or thin, less pilocarpine may be used. After three-quarter of an hour's sweating, give the patient 1-100 of a grain of atropine in water. Fifteen minutes after this mop (do not use friction) the patient with warm towels, the Turkish being preferable. Then place on the patient a warmed night robe and put him between warmed sheets with his ordinary covering over him. Then give the following prescription:

℞ Phenacetine ....gr. xviij
Salol ....gr. xxxvj
Caffeine citrate ....gr. iv

M. ft. caps. No. xij. Sig.—One every two hours.

Be sure and tell the patient that dribbling from the mouth comes from the medicine and will soon disappear.

If these directions are carried out to the letter there is no danger connected with this treatment, and I must say this method will cure a cold more quickly than any other.

HOW TO ABORT A COLD.

Max Nassauer asserts that an incipient cold in the head can be checked if the nose is thoroughly rinsed with a weak (pale pink) solution of potassium permanganate, which seems to have a specific action upon the germs of coryza. It checks colds in the first hour or so. After blowing the nose vigorously, both nostrils are well rinsed out with the solution, the fluid being allowed to run out through the other nostril and through the mouth. Each nostril is wiped out with cotton on the finger. A small dry plug of cotton is then pushed well up into each nostril, and the nostrils are filled with the weak solution, with the head held back, the cotton being allowed to soak it up. The plug is left undisturbed for about an hour, when it can be expelled by blowing the nose. Even an established cold is favorably influenced by this treatment, but it is most effective when the sneezing, tickling and increased secretion announce the onset of the attack.—Practioner; Cincinnati Lancet-Clinic.

An ointment of sixty grains of oleate of tin to one ounce of ointment of rose water is an elegant and efficient application to the finger nails when brittle or marked with spots and ridges.

REMARKS ON MODERN FOOT-CLOTHING.

Dr. B. B. Mosher has an interesting article in the November number of the Brooklyn Medical Journal on the above subject, from which we extract the following statements:

The author commenced his study some five years ago, the suggestion coming from an incident that occurred in a shoestore. A young woman was having a pair of shoes fitted to her feet. The clerk had to exercise considerable force in putting on the shoes, and after finishing his task he asked the young lady how they felt. The customer replied with great seriousness, "That is not the question; how do they look?"

Figures 2, 3 and 4 are only referred to to indicate the anatomy of the foot, and to figure 10 to show an example of martyrdom willingly submitted to by the women of China.

"The popular idea that in standing the feet should stand out is incorrect," says the Doctor, " and only tends to weaken the arch by throwing the body weight nearer the inner edge. In walking, the inside line of the foot should move forward in nearly a straight line. I do not believe the old theory of placing the ball of the foot on the ground first, in walking, is practical, and is not graceful as long as we wear heels on our shoes. I have a fancy that this is equally true of the naked foot, as will be noticed by watching children barefooted. In walking, the heel should be considered only as one end of an arch, which, though posterior, precedes the other end in taking its position to receive the weight of the body."

Continuing, the author says: "The first principle in foot-clothing is that the shoe should fit the foot, and not that the foot should fit the shoe. The cardinal point in building shoes is the straight inside foot line (Figure 1), which deviates only when deformities are present except when the big toe is raised it is naturally abducted a little, and it is in these various abnormal conditions that the judgment of the physician backed up by the honest shoemaker and honest lastmaker will be of so much value in deciding the practical, proper-shaped shoe to be worn."

THE PROPER SHAPE OF THE SHOE.

After closing up his commenting remarks, the writer proceeds to outline the proper form of the shoe best suited for comfort and health: "The side of the shoe should always be wider than the corresponding side of the foot, and the tracing of the foot should always be made with the weight of the body on the foot. The shoes must be right and left even in infancy, and should be laced. The material should be of soft pliable leather for the upper, and hard, firm leather for the sole, and especially the shank, and it is of the greatest importance that the lining should be smooth, free from wrinkles, and have few seams. The heel, if any, should be broad and low. I see no objection to such

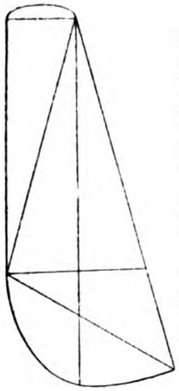

FIG. I. SOME LINES FROM AN OLD INDIAN MOCCASIN.

FIG. II.

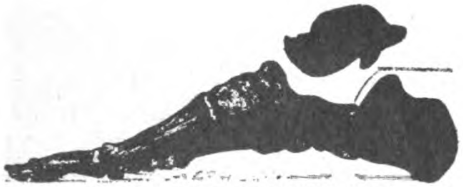

FIG. III. SHOWING THE ARCH AND THE KEYSTONE (OPEN).—ELLIS.

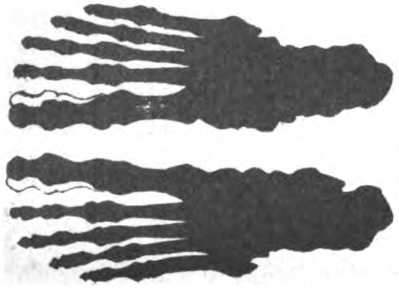

FIG. IV. SHOWS THE STRAIGHT INSIDE SOLE LINE AND TRIANGULAR SHAPE OF THE FEET, ALSO THE POSITION OF BIG TOE IF RAISED (ABDUCTED).—ELLIS.

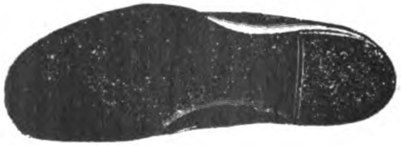

FIG. V. A VERY GOOD SHAPE FOR BOY OR MAN WHOSE FOOT IS NOT DISTORTED

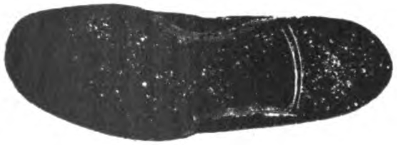

FIG. VI. A GOOD SHAPE FOR BOY OR MAN WHOSE FOOT HAS BEEN SLIGHTLY DISTORTED.

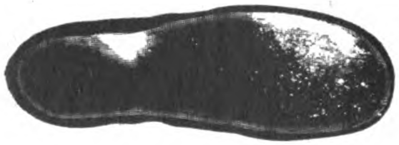

FIG. VII. A CHILD'S SHOE BUT DOES NOT SHOW WELL HERE ITS STAIGHT INSIDE LINE OWING TO THE FAULTY PHOTOGRAPHY.

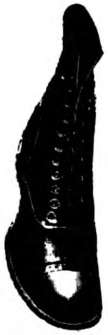

FIG. VIII. A GOOD TOE SHAPE.

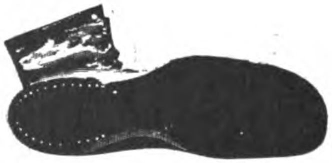

FIG. IX. A GOOD SHAPE FOR GIRLS.

PHOTOGRAPHS OF SOME PRACTICAL SHAPES, WORN BY MY PATIENTS.

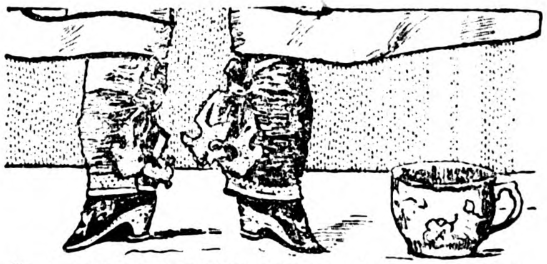

FIG. X. SHOWING THE DISTORTED CHINESE GIRLS' FEET COMPARED WITH AN ORDINARY TEACUP.

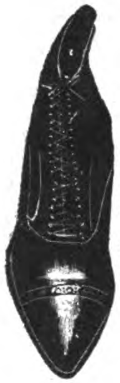

FIG. XI. SAME AS FIG. XII.

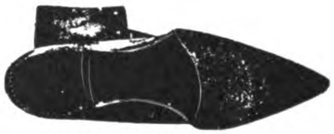

FIG. XII. THE STYLISH (?) SHAPE.

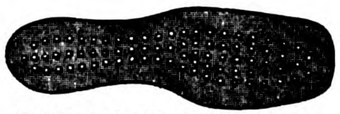

FIG. XIII. A SO-CALLED COMMON-SENSE SHAPE.

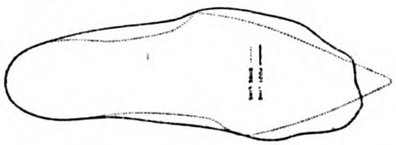

FIG. XIV. COMPARATIVE TRACINGS OF SHOE WITH FOOT IN IT AND OF FOOT OUT OF SHOE.

PHOTOGRAPHS OF SOME FOOT DISTORTERS.

heel, but we should not be in too great a hurry to discard the spring-heel. The wide, so-called common-sense shoes have, perhaps, been comfortable, but they do not follow the lines of the foot, are unsightly, and, while giving plenty of room for the foot, beyond the toes on the outer side, there is a great deal of unnecessary space, which is often stuffed with cotton, to keep it from wrinkling, yet the inside line is usually too short and not straight enough. It is impossible to procure from the ready-made shoe-dealer a correct shoe, and next to impossible to find a man who will make to order a shoe that will correspond perfectly with a physician's idea. The root of the evil is not so much with the shoemaker as with the last-maker, and as the latter supplies the factory shoemaker, as well as the custom shoemaker, the only way the custom shoemaker can make a shoe to fit the individual foot, better than the ready-made shoe is by leathering or building up these lasts. What is needed to remedy this state of affairs is custom last-makers, who will make a last after a plaster-of-Paris cast of the foot, intelligently correcting the imperfections. Personally, I am so discouraged by my failure to get proper shapes in shoes and stockings for my patients who need and desire comfort, that I am forced to believe the footwear dealers either indifferent or ignorant, yet the vast strides made in the last three years toward correct shapes, leads me to feel that if the medical profession will take the interest it should, we shall yet have a shoe built on strictly anatomical lines. I have urged my patients to have their shoes built as nearly as possible on the lines shown in Figures 5, 6, 7, 8 and 9. Proper foot-clothing contributes not only to comfort and graceful movements, but by allowing the amount of comfortable walking necessary is a great factor in keeping one in a healthy condition."

"Stockings should be of good, firm material, soft and pliable, always rights and lefts, and better digitated for the great toe, if not all."

A GENERAL PLEA TO THE PROFESSION.

In closing up his paper, Dr. Mosher says that "we should bear in mind that the normal foot, viewed from below represents a rather imperfect triangle, with its base forward, and that the inside sole-line is practically straight; that is, a line touching the inner side of the heel, passing forward, should touch at the metatarsal phalangeal joint of the great toe. I should like to urge that more attention be given to foot-clothing by the medical profession. It adds to the health, comfort and well-being of patients. Let us urge and insist that the manufacturer produce footwear hygienically and anatomically correct, attractive, neat, and artistic in appearance. Then we must educate our patients to the new ideals."

Finally, "I feel strongly that the best remedy for these pathological conditions lies in their prevention, by the use of proper footwear, and it is our duty as the medical advisers, especially of children to have their feet under the same supervision as any other part of the body, and insist on the application of proper foot-clothing, just as emphatically as we would on proper postural positions and the use of glasses in eye deformities. But when a deformity really exists in the foot as the result of improper foot-clothing it needs our personal supervision as to the proper shoes and stockings worn, just as for the application of braces for other deformities and diseases. A physician who would send a patient suffering from hip-joint disease, to the instrument-makers without directions or further supervision would be considered by us all as highly unscientific and at least indifferent, and it seems reasonable that a physician who leaves to the care of a shoemaker the deformed and diseased feet of his patients might be viewed in exactly the same light."

THE FUNDAMENTAL PRINCIPLE OF SUGGESTION.

There are two kinds of ideas we are prone to accept and believe—first, those that we wish to believe, and, secondly, those which we have been prepared to believe by the previous impact of external impressions upon our subliminal consciousness. The last statement enunciates the fundamental principle of suggestion, which is well exemplified in the following words from a novel entitled, "The Honorable Peter Stirling." Therein (page 231) we read: "The successful orator is the man who imposes his frame of mind on the audience. We call it 'saying what the people want said.' But many of the greatest speakers first suggest an idea to their listeners, and when they say it in plain English, a moment later, the audience says mentally, 'That's just what we thought a moment ago,' and are convinced that the speaker is right."—N. Y. Med. Jour.

WHERE MEN HAVE THE ADVANTAGE.

Interesting Lady Patient—"Doctor, what do you do when you burn your mouth with hot coffee?"

Dr. Fingerfee—"Swear."

TO PREPARE MANUSCRIPT.

(From Notes and Queries.)

Write upon pages of a single size;
Cross your t's and neatly dot your i's.
On one side only let your lines be seen—
Both sides filled up announce a verdant green.
Correct—yes, correct—all that you write,
And let your ink be black, your paper white,
For spongy foolscap of a muddy blue
Betrays a mind of the same dismal hue.
Punctuate carefully, for on this score
Nothing proclaims a practiced writer more,
Bear this in mind, observe it to the end,
And you shall make the editor your friend.

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A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

Editor, J. W. MACDONALD, M. D., F. R. C. S. E.

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JANUARY, 1900.

CIGARETTES.

The London Lancet for December 9, 1899, contains the report of the "Lancet Analytical Sanitary Commission" on American cigarettes, which will command attention on account of its thoroughness of investigation and its conclusions as to the harmlessness of the tobacco and other ingredients used in their manufacture. The commission on tobacco dates back to 1853, when a report was made in the Lancet for July 30th on "Tobacco and its Adulterations," and this report extended through several numbers of the journal, concluding in Dec., 1853. The analytical results were based upon a great number of samples of tobacco and cigars, purchased in shops in London, and "brought to light certain forms of adulterations, but there was no evidence to show that the adulterations were of a kind likely to produce injury to health."

Since the date of that report the cigarette has been introduced, and at the present time the daily consumption has reached enormous proportions. In 1888 there was a rumor that these cigarettes contained opium and "an unclassified alkaloid," and also, that the paper covering contained arsenic, copper, or chlorine. The Commission was appointed in 1888 to make inquiry as to these matters, and the result was that the Lancet of Oct. 20th, 1888, was able to say, "That there was no trace of opium or any 'unclassified alkaloid in the tobacco, not a trace of chlorine or arsenic in the paper, but there was a faint trace of copper due to the metallic lettering on the paper wrapper." But the suspicion of injurious adulterations continued, and gained ground both in England and the United States where most of the tobacco is produced. These suspicions have led to an organized movement against the habit of cigarette smoking which has adopted somewhat exaggerated statements as to its dangerous effects, without producing very much impression on the public, or reducing the number of smokers. Among the evil results of cigarette smoking were enumerated, "increased lunacy returns, and the ranks of the insane and criminal classes were recruited from boys addicted to their use." The Commission quote from the press of New York such startling headings as the following:

"CIGARETTES MADE HIM A LUNATIC."
"A BRIGHT SCHOOLBOY BECOMES A CHATTERING BEGGAR FROM THEIR USE."
"MADE MAD BY SMOKING."
"DANCED, RAVED AND PRAYED."
"STRAPPED TO A STRETCHER."
"THE YOUNG TAILOR WAS CARRIED SINGING TO INSANE WARD."
"CIGARETTES CLAIM A VICTIM."
"BEGAN SMOKING THE WEED WHEN BUT A LAD AT SCHOOL, WHICH BROUGHT HIS LIFE TO AN END BEFORE HE WAS 21, AND PRODUCED A LARGE TUMOR ON THE BRAIN AND PARALYZED BOTH LOWER LIMBS."
"PUFFED OUT LIFE BY CIGARETTES.

Investigation proved that there was no foundation for the statement that death was due to cigarette smoking; and the other reports would not probably sustain a close scrutiny as to their truth. Cigars for analysis were bought in New York and London by the commissioners for comparison, with the following results as partly copied from their very elaborate table:

Average weight of cigarettes bought in New York....	17.83 grs.
Average weight of those bought in London..	17.34 grs.
Weight of paper the same in both—viz.:	0.63 grs.
The percentage of mineral in paper in the New York	2.93 grs.
The percentage of mineral in the paper in the London	3.21 grs.

The ratio of weight of paper to the tobacco was the same in both—1 to 27. The percentage of nicotine in the New York cigarettes was 0.94, and in the London it was 1.05. Moisture in the New York, 11.53; and in the London, 13.82. The difference in the two climates would probably account for this. Mineral matter in the tobacco from New York was 11,81, in London, 13.00. The alkalinity of the ash, reckoned as potash, in 100 parts in the New York, 3.32, and in London, 3.33. Combined chlorine in the ash of New York, 6.39, and in the London, 6.21 grs. Saccharine matters, reckoned as glucose, in the New York, 1.87, in the London, 2.26.

While normal tobacco constains certain sticky substances which resemble sugar, glucose or saccharine matter is sometimes added for practical purposes; the addition is harmless. Neither glycerine nor glucose, in the opinion of the commission, in the extremely limited amounts shown by the analysis, is in the smallest degree injurious to health.

It is said the percentage of nicotine in the pure Virginia leaf used in these cigarettes seldom exceeds, according to analysis, one per cent.; while in other kinds of tobacco it may reach four times that amount. But the Commissioners say, "It is doubtful whether any nicotine ever reaches the mouth of the smoker, except that present in the moistened tobacco which is in contact with the lips; the smoke products of tobacco do not contain any important quantity of nicotine, the chief toxic bodies being related to that interesting series of organic bases known to chemists as pyridines."

The Commission was not appointed to ascertain if the smoking of cigarettes was more injurious to health than any other form of tobacco, but simply to report upon the poisonous nature of any ingredients entering into the manufacture of cigars and cigarettes, and consequently they have not expressed any opinion as to that feature of the question, viz.: whether the practice of cigarette smoking is injurious to the health of juveniles indulging in the habit? But the commission does say, "It is possible that cigarette smoking in particular is more injurious than any other form of smoking, but this in the majority of instances may be referred to the method rather than to the materials of the cigarette."

It would not be wise for every one to infer from the above favorable report as to the harmless character of the ingredients of materials in the manufacture of cigars and cigarettes, and advise to smoke—

"Those who never smoked before,
And those who smoke now smoke more."

While we do not believe cigarette smoking will account for the pale and puny condition of all we meet accustomed to the habit, but that it may be accounted for on other grounds, still we do believe that the proof is positive that free indulgence in smoking tobacco in any form does not contribute to a robust physical development: if it did we feel assured that there "would be giants in these days."

WOMEN AND BICYCLES.

Much has been said and written of the supposed injurious effects of bicycle riding upon women. That overexertion in this form of exercise, as in any other, is followed by evil consequences no one will question. Any person, man or woman, of 30, 40 or 50 years of age, taking up for the first time in life any athletic exercise and undertaking to compete with those who have been accustomed to such exertions must run the risk of injuring the vital organs, and in many cases it is the heart which suffers. This danger is common to all athletics such as rowing, running, swimming or fencing, and if these exercises are to do good they must be employed in moderation.

What are we to regard as moderation in bicycling? This will depend upon many things. A ten-mile ride on a smooth and level boulevard would be moderate exercise, while the same distance over a sandy or hilly road might be dangerous exertion. A strong woman may be benefitted by a twenty-mile run, while her delicate sister would be prostrated by a ride of ten miles. The strength and vigor of the individual, the mechanism of the wheel, the state of the roads, and many other things must enter into the calculation. Every woman must decide for herself as to what is moderate use of her wheel and act accordingly, but a pretty safe rule is to let the exercise be short of fatigue.

In a large experience Skene Keith, M. R., F. R. C. S., of London (Lancet, Dec. 9, 1899), found only three cases in which bicycling necessitated treatment of the pelvic organs. The first of these was an unmarried lady of 22 who was rapidly descending a hill when a dog ran in front of the machine and she fell, being much shaken, but as far as she knew she received no special injury. In the course of a few weeks it developed that she had a retroverted uterus presumably the result of the accident. Replacement of the organ effected a cure. The second patient, who, by the way, had been melancholic for several years previously, felt that something "seemed to go wrong," while she was learning to bicycle. An examination some months afterwards revealed an anteverted and enlarged uterus, which was believed by her physician to be the cause of mental depression and melancholia. Treatment of twenty-five applications of electricity was followed by cure. The third case was that of a retroverted uterus with prolapsed ovary and presented no special features.

From the recorded instances of injury, such as the above, no very strong case can be made out against the bicycle. Cases similar to Mr. Keith's are of every day occurrence, and are common in women who never sat on a wheel. Altogether we feel that the bicycle places within the reach of women a healthful and much needed recreation, a strength-giving exercise and a rapid and pleasant means of locomotion.

WHAT IS TRUTH.

The alleged founder and teachers of the christian science faith and practice in the healing of disease claim, as the basis of their doctrine, the teachings and actions of Christ in his manner of treatment of the sick and suffering; but the first article of their creed, and not an unwise one, recommends the prepayment of a fee to show the faith of the patient, without which it is said, no cure can be expected. Where is there any authority in the life of Christ for this claim as one of His teachings? No instance is on record it is believed, where He ever solicited, received, or was even offered any recompense whatever for healing the sick; and this too in an age of universal custom of presenting gifts for favors received. It is also claimed that Christ never made use of any medicine in His treatment. It was not necessary; but there is one instance on record where He annointed the eyes of the blind man, with an apparently simple preparation to be sure, but nevertheless the application was followed by the injunction to wash it off, and there are other instances of particular recommendations to wash in special waters for healing results.

THE SOUTHERN NATIONAL PARK ASSOCIATION.

Many of the leading citizens of North and South Carolina, Georgia, Tennessee, Virginia, Kentucky, West Virginia, and the District of Columbia have organized the Southern National Park Association, and are making a strong effort to secure congressional aid to open a national park in the mountains of western North Carolina. The people who are taking the lead in this matter contend that inasmuch as all the national parks of the country are located in the north it is about time for them to secure a public breathing place that shall endure for all time to come. The arguments put forth for the setting aside of the large tract in northern Minnesota for a public reserve are also used by the supporters of the southern scheme to accomplish their purpose. Why should not the south have a national park? That section has been wonderfully reconstructed since the war, and there is truly a new south, teeming with bright hopes for the future. The country can well afford to create a mammoth park in those delightful mountains of the northern Carolina, as well as to open one in the enchanting pines of Minnesota. Such preserves when properly cared for will be the realization of the dreams of the medical profession, for to them can be sent the thousands of patients who need the outings to be obtained there more than they need medicine at home.

The Charlotte Medical Journal has the following to say in regard to the matter:

"Within a day's travel of New York, Philadelphia, Baltimore, and most of the Atlantic seaboard, and quite as accessible to Pittsburg, Cincinnati, Louisville, Indianapolis and St. Louis, there are vast stretches of virgin forest—along the line of the Great Smoky Mountains, on the border between Tennessee and North Carolina—that are thoroughly suited to the purposes of a great game and forest preserve.

"Going up from the lowlands of Walhalla, S. C., to the high plateau surrounding Highlands, N. C., in a stage trip of about thirty miles, the late Prof. Gray, the eminent botanist of Harvard, tells us that he encountered a greater number of species of indigenous trees than could be observed in a trip from Turkey to England through Europe, or from the Atlantic coast to the Rocky Mountain pleateau. The region surrounding that described by Prof. Gray, especially to the west, with the headwaters of the Tennessee, the French Broad and the Savannah rivers, all within a few miles of each other, with fertile valleys and mountain elevations of 5,000 feet or more, and a density of verdure unapproached elsewhere, is an ideal spot for a preserve, where every sort of North American animal or fish would thrive and where almost every tree or plant found within our borders from the Atlantic to the Pacific would grow uncared for.

"The timber and mineral wealth of the region is such that it can only be a question of a few decades when these mountain slopes will be denuded, and when the people of the vast valleys that depend on these watersheds for their water supply will suffer from the blindness of a generation that could not foresee the otherwise inevitable and combine its prevention with the benefits of an enduring national park in the populous East.

"Throughout the United States there are several national parks. The curiosities and canyons of Yellowstone are walled in and the battlefields of civil strife are all being preserved and are marked by monuments and mausoleums. But the proposed national park of Western North Carolina perpetuates no freaks and fences in no remnant of fratricidal strife. It is not to be a park of impossible geysers or interminable ravines. It is not to be a deadhouse or a landmark of war. It is to be a reservation of life and health and endless beauty; a solitude of peace, an enchanted land, which will blossom as a rose.

"George S. Powell, of Ashevill, is President, and Dr. C. P. Ambler, of Asheville, is Secretary of the Association, and we trust they may have the hearty co-operation of every thinking man in the country.

"The therapeutical uses of such a National Park are exceedingly great. The salubrity of the climate in this section of the country amid the everlasting hills and the giant trees, has no parallel in the world. The resinous air of these woods bear healing in its wings, if they are only let alone, and so the establishment of a half-million acre park would forever reserve for our people a sanitarium of the Gods."

A bad digestion—a bad heart.

THE LATE DR. WHEELER OF IRELAND.

The medical profession in Ireland has lost from its ranks a prominent and widely known figure by the death of William Ireland DeCourcy Wheeler, M. D., Dub., F. R. C. S. Irel., which occurred on November 25th. The Lancet relates an anecdote which reveals the character of this eminent physician. He was summoned by a general practitioner of North Dublin to see a man who was old, insensible and dying. It was merely a matter of form, and he of course recognized it as such. A brief examination, a nod of the head, signifying his concurrence with the opinion of the medical attendant, and the consultation was over. On being handed three guineas he said that his consultation fee was two guineas. The practitioner stated that the patient could well afford the additional guinea, whereupon Dr. Wheeler, after buttoning up the well-cut frock coat which he always wore, astonished his hearer by pointing out that the patient could give money away in charity but not to him. A month later the public papers were full of Dr. Wheeler's action against the Irish Government for the recovery of a fee of eleven guineas for attendance on Mr. Sheen-Carter, an Irish landlord who was badly wounded by "moonlighters" in Mayo. The amount of the fee for eleven visits seemed at first sight large; but it was considered fair under the circumstances, and according to Irish ideas. It was disputed by the Government and became the subject of a public litigation. Dr. Wheeler steadfastly refused to abate his claim and in the end it was duly paid in full.

RESULTS OF THE USE OF THE SANARELLI SERUM IN YELLOW FEVER.

The enterprising publishers of the New York Herald some time ago sent a supply of yellow fever serum to Havana for trial on as many cases of yellow fever as it was possible to make the test. A correspondent, under date of November 9, cabled as follows:

The Sanarelli serum sent here by the New York Herald was given a practical and highly satisfactory test last week. The two patients to whom it was administered have fully recovered from yellow fever, and they have been placed in the convalescent ward. The sanitary measures taken by the American government and the liberal use of the electrical disinfectant has kept down a yellow fever epidemic in the city proper, but along the water front there have been spasmodic cases, and the Machina wharf seems to have been a great breeding place for the germ.

It was there that last May the first fatal cases were developed in the Marine Corps, and two engineers and a deck hand of Admiral Cromwell's launch have since died there.

Dr. Raphael O. Marcour, of the United States Marine service, is the doctor in charge at the Machina. He is one of the youngest doctors in the service in Cuba, and has given yellow fever a special study. The several cases which come under his charge at the Machina were of a most virulent type, and nothing in the way of old remedies seemed to stop the progress of the disease.

The Sanarelli serum, which arrived in September, had been carefully laid aside by the staff of military doctors, who were tempted to look upon the use of serum as an experiment wholly outside of a military man's line. Last week, however, Dr. Marcour took the initiative.

Lawrence Fitzhugh, an assistant on the Admiral's launch, had been sick four days with a pronounced case of yellow fever. Black vomit had set in, and there was no hope by the ordinary treatment to save the man's life. Dr. Marcour applied to Maj. Gorgis for some of the Herald's Sanarelli serum.

That evening he injected some into the abdomen of Fitzhugh. In three hours there was a change for the better. The next day the black vomit stopped, and in three days all traces of yellow fever had left the patient. He was, however, in a very weak condition on account of his severe illness before the serum was administered, and it took careful nursing to bring him around.

While Fitzhugh was recovering, another man, the steward of Dr. Marcour, John H. Sublette, was taken ill, and he had severe symptoms of the fever that had proved so fatal to the occupants of the Machina. Dr. Marcour, elated at the pronounced success in the case of Fitzhugh, immediately gave Sublette an injection of the serum, and from the moment it began to work on his system improvement in his condition was noticeable. The two men are fast recovering, and the doctor says that they will be at work again in a few days.

There is no doubt in the mind of Dr. Marcour that the Sanarelli serum is an anti-toxin for yellow fever, and he has strongly urged its use in the yellow fever hospitals here. He furthermore firmly believes that the serum is a preventive as well as a cure for the fever, and he is making arrangements to vaccinate one of the men on the Admiral's launch who has consented to submit to the operation.

It is shown by the experiments of Dr. Eugene Wasden, who was conducting the work in the yellow fever government experimental station here last spring, that the Sanarelli serum, when injected into rabbits and guinea-pigs used as subjects, caused a mild case of yellow fever, and a man treated similarly would be to all intents and purposes immune.

THE PESTILENTIAL MOSQUITO.

Two important expeditions were sent out recently on important missions, one to Italy and the other to the west coast of Africa Last year Prof. Koch headed the commission sent out by the German emperor, accompanied by Pfeifer and Kossell, to work in the kingdom of Italy, where they spent much time in Milan, in northern Italy, and at Rome, in central Italy. The English government sent their commission to Sierra Leone, with Donald Ross, of the East India service, as leader. The object of both expeditions was to study the relation of the mosquito to malaria. Both came practically to the same conclusions, which may be summarized briefly as follows:

(1) That a mosquito called anopheles maculepenius is the usual means of spreading the malaria.

(2) That one of the culex-culex pipiens occasionally carried the disease.

(3) There is a possibility that a third insect was an occasional carrier.

(4) That tropical fever and Italian fever are due to one and the same parasites.

(5) That the tertian, quartan and aestro-autumnal parasites are probably modifications of the same organism, the modifications being a result of medication, season and immunity.

(6) That toward black water fever—malarial hæmo-globinuria—quinine stood in something of an exologic relation.

(7) That in birds a proteosoma greatly resembling the malarial plasmodium was found.

(8) That in animals on the Campagna having Texas fever the tick was found.

An index is in preparation for Volume I, of The Medical Dial, which will be printed and inserted either in the February or the March number.

TO THE MEMBERS OF THE MEDICAL PROFESSION IN THE UNITED STATES.

The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the Bill for the "Further Prevention of Cruelty of Animals in the District of Columbia," which he so strenuously and misguidedly advocated in the last two Congresses. It is Senate Bill No. 34. Twice the Committee on the District of Columbia has, also unfortunately and misguidedly, reported the bill with a favorable consideration. It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is twofold: 1, to prohibit vivisection and, 2, to aid the passage of similar bills in all the state legislatures.

It hardly needs to be pointed out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the Government, the Army, the Navy, and the Marine-Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and care of disease among human beings it is superfluous to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert itself to the utmost to defeat this most cruel and inhuman effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that every physician who shall read this appeal shall immediately communicate especially with the senators from his state, shall also invoke the aid of the representatives from his or other districts in his state, and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all of the national, state and county societies, at their next meeting, take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid.

The Committee on the District of Columbia consists of Senator James McMillan, Michigan, Chairman, and Senators J. H. Gallinger, New Hampshire; H. C. Hansbraugh, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; C. P. Wetmore, Rhode Island; C. J. Faulkner, West Virginia; Thomas S. Martin, Virginia; Wm. M. Stewart, Nevada, and Richard Kenney, Delaware. Personal letters may be addressed to them or to other senators.. Petitions should be addressed to the Senate of the United States.

W. W. KEEN, M. D.
President American Medical Association.

DANGERS OF HYPNOTISM.

Professor J. T. Eskridge of Denver, in his scholarly treatment of the subject of hypnotism in Sajous' Annual Cyclopedia of Medicine, draws attention to the dangers of hypnotism in the following words:

"So far as my reading goes there has been only one death recorded as occurring from the direct effects of the excitement incident to intense mental strain of a person in hypnosis.

"Nearly all are agreed that the indiscriminate use of hypnotism or the employment of it by persons ignorant of the possible bad effects that may result from it, is highly reprehensible and should be forbidden by law. Much depends upon the methods employed to induce hypnosis. Repeated hypnosis, unless the greatest precaution is used, may result in weakening the ego of the subject. It does not seem to me justifiable to hypnotize for experimental purposes alone.

"When it is necessary to employ hypnotism for the relief of some conditions, then it is justifiable, in my opinion, for the observer to study the physical and psychical effects. The hypnotized should never be subjected to prolonged physical or mental strain. Persons should not be kept in an hypnotic condition for days at a time. When the suggestive method of inducing hypnosis is employed, the same subject should not be too repeatedly hypnotized over a long period, and every precaution should be used, by suggestion or otherwise, to prevent any ill effects. It seems to me that hypnotism is only justifiable for therapeutic purposes in a limited number of cases.

"There is no doubt that the methods employed by Charcot and his followers—such as tiring the subject by gazing at bright objects held in such a position as to strain the eye-muscles, the sudden flashing of an electric spark before highly-hysterical subjects, frightening a nervous person by striking a loud-sounding gong hidden near her, or stamping the floor with the foot, and in a loud and commanding voice bidding the person go to sleep—may result in great nervous and mental strain, often throwing the subject into an hystero-epileptic condition. Convulsions and insanity have followed such procedures.

"As to whether some persons may possibly be hypnotized against their will, it is my opinion that these are mainly accidental cases and could rarely be used for the purpose of crime. No one can be hypnotized against his will if only the suggestive method of inducing hypnosis is employed. It is probable that after repeated hypnotic suggestions a person might be forced to commit a criminal act against his will or desire."

THE ELECTRICAL DIAGNOSIS OF DISEASES WITH COMPLICATIONS.

There is said to be a quack doctor in Minneapolis who is able to read the symptoms of his patients by simply looking in their faces. A patient makes his appearance in the august presence of the learned (?) pill manipulator and is immediately informed by the latter of all the symptoms as they are experienced by the patient, much to his astonishment. The sick individual wonders at the remarkable occult powers of the medicine man and is entirely at the latter's mercy. The smart doctor is said to have telephone connection with an outer office where a slick questioner is stationed to receive patients. In this room each patient is questioned as to symptoms and the doctor in the main office takes in the entire conversation, and is therefore fully cognizant of all the party would tell him on entering the office. This is what one might call the esoteric evolution of symptoms.

It is said of the physicians of Jersey City that when they attend a theatre they write their names on a bulletin board provided in the lobbies, together with their seat numbers. This arrangement is convenient for patients and their messengers, but we think it would hardly suit some in the profession who often engage persons to have their names called out in public for advertising purposes.

The many friends of Dr. J. H. Dunn will be glad to learn that he is steadily improving.

HEALTH HINTS.

We have boiled the hydrant water;
We have sterilized the milk;
We have strained the prowling microbe
Through the finest kind of silk;
We have bought and we have borrowed
Every patent health device,
And at last the doctor tells us
That we-ve got to boil the ice.—Ex.

A TERRIBLE WARNING.

There was a man who was too stingy to subscribe for his home paper, so sent his little son to a neighbor to borrow one. As the boy was going home he fell down and broke his leg. The father heard his cries and ran out to see what was the matter, but slipped and fell, dislocating his knee and tearing the bosom out of his ten-dollar pantaloons. His wife ran to his assistance, leaving a two-year-old baby on the floor. The baby crawled out and fell down the well, and while the mother was fishing the child out the house caught fire and was totally destroyed. Moral.—Now is the time to subscribe.—Cambridge (Ohio) Sun.

HEADACHE.

Gouty headache usually attacks the forehead. Nervous headache affects the forehead and top of the head. Congestive and bilious headaches also attack the forehead and top of the head. Anœmic headache chiefly involves the top of the head. Sympathetic headache is generally limited to one spot. Organic headache also occurs on one spot—the site of a tumor or other lesion of the brain or its membranes. Neuralgic headahce usually affects one side of the head, or sometimes one spot, as in "clavus hystericus." Malarial headache may attack the forehead, sides, or back of the head. The headache of typhus and typhoid fever is principally in the temples and forehead. Rheumatic headache pervades muscles of the scalp. Syphilitic headache is limited to certain spots on the scalp, and is most prominent during the night.—Louis Lewis, M. D.

Progress of Medicine.

PEDIATRICS.

UNDER THE CHARGE OF

H. B. SWEETSER, M. D. J. P. BARBER, M. D

CYANOSIS IN CROUP.

(Editorial Pediattrics Dec. 1. 99.)

Many who have had but little experience in croup are too often misled as to the dangerous symptoms present by the absence of cyanosis, thinking cyanosis to be the cardinal indication for operative interference. They seem to forget that the exhaustion incidental to drawing sufficient air through the narrow chink of the glottis by means of the powerful auxiliary muscles of respiration, is of itself a serious menace to the life of the patient, whose heart is already enfeebled by toxins. The recession of the supraclavicular and intercostal spaces and substernal region are most important indications for immediate intubation. Perhaps the generally most satisfactory sign for interference when in doubt is, as pointed out by O'Dwyer, incomplete aeration of the posterior portion of the lungs, as evidenced by the greatly diminished or absent vesicular breathing.

J. P. B.

BELLADONNA IN THE BRONCHO-PNEUMONIAS OF CHILDREN.

Hodghead (Pediatrics, Sept. 1st, 1899,) reports a case of broncho-pneumonia following measles, in a child of 18 months old, which had been treated in the usual way for several days, with no benefit. The child was growing worse, the strength waning and the lungs and tubes rapidly filling up with secretion. He then withdrew all former medication, had poultices removed and wrapped the child in loose clothing that would neither irritate the skin nor interfere with respiration. Water was given instead of milk, one-tenth grain of calomel was given hourly alternating half hourly with two drops of tr. belladonna. In twelve hours there was a marked improvement, and the child made a rapid recovery. The author used this treatment in twenty-five cases of his own and has reports of five others in the practice of other physicians with two unfavorable results—about the normal death rate, although he claims the death rate to be from 60 to 80 per cent.

He sums up the action of belladonna as follows:

1st. "In small doses it is mildly narcotic, producing a slightly sedative influence upon the nervous system, and having a tendency to make the child less irritable, and its condition less uncomfortable.

2nd. "It is, in small doses, a heart tonic, raising the arterial tension and increasing the circulation by stimulating the cordice sympathetic, and in a corresponding manner depressing the pneumogastric, the inhilatory nerve.

3d. "It is a respiratory stimulant, influencing in some degree the diaphragm, but more especially does it affect the accessory respiratory muscles, although its action in this regard, it must be confessed, is not yet fully understood.

4th. "Belladonna produces a dilitation of the superficial capillaries, and in a corresponding degree, and in the same manner, relieves the congestion of the lungs. It might also be remarked that it produces increased secretion of urine and of bile.

5th. "The most important influence, however, which the drug exerts, and the one which bears directly upon the question at hand, is to diminish secretion in the bronchial tubes and plumonary tissues. The water-logged condition of the lungs is overcome or prevented. Its effects, in such instances, seem almost mechanical as well as marvelous. The super-abundant and dangerous secretions are diminished in quantity, and the threatened asphyxia, which becomes completed when these secretions increase so abundantly that the child is unable to rid its lungs of them, is averted."

He points out the fact that chilren bear large doses of belladonna and by giving it in frequently repeated doses its effects can be watched and any untoward symptoms averted, although he has not seen any even when the drug was pushed to its extreme physiological limits.

There is another very important indication for belladonna, which sometimes arises in pneumonia and which the author has not pointed out very clearly. When the pulse is soft and weak, the tempperature low, and the skin leaky, there is no drug, or therapuetic measure, which will act so promptly and beneficially as a full dose of belladonna or atropia.

There is a great deal of wisdom in the author's final remark that thirty cases are not a sufficient number on which to establish belladonna as a specific in this disease. The vast majority of cases of broncho-pneumonia, at least in this climate where the mortality is not nearly so great as the author claims it is, tend to resolution by crisis. This fact is likely to destroy the effect of any statistics based on any particular drug or any method of treatment in this disease. The writer of this review once tabulated about one hundred cases of pneumonia with reference to a special line of treatment, and when about to publish the results, which appeared exceedingly favorable, it occurred to him that perhaps like results might follow any other treatment that was not positively detrimental. A careful observation of several cases convinced him that the natural history of the disease had been very little changed by his special treatment. Later observation has confirmed him in this belief.—J. P. B.

Neurology and Psychiatry.

UNDER THE CHARGE OF

R. O. Beard, M. D., W. A. Jones, M. D.

PATHOLOGY OF PARALYSIS AGITANS.

(By H. C. Gardinier, A. M., M. D.)

The author (Amer. Jour. Med. Sci.) describes a case of paralysis agitans which gave the characteristic history and showed that ordinary stiffness, disability, gait, and attitude, but at no time tremor in any of the muscles. She complained of rheumatoid pains in the arms and legs, and suffered frequently from numbness of the fingers and toes. There was no motor or sensory paralysis and the cranial nerves were intact. The patella reflexes were slightly exaggerated, but there was no ankle clonus, and the superficial reflexes were normal. No trophic changes appeared in the skin, but thermal paræsthesia was quite marked, and she complained much of heat, which annoyed her dreadfully in summer. Mentally she was rather dull and her memory was defective.

Microscopical examination of the cord showed the pia universally thickened with dilated bloodvesels, increase of neuroglia tissue and great increase in the number of capillaries both in the gray and white matter. Numerous corpora amylacea were found in all sections, but more abundantly in the posterior and lateral columns. There was throughout the gray and white matter a universal round-cell infiltration which proved to consist of escaped leucocytes. In all sections there was present a distinct perivascular degeneration due to proliferation of the neuroglia accompanied by displaced or completely degenerated nerve fibers, these being most abundant in the lateral and posterior columns. The anterior horn cells showed enlarged pericellular lymph spaces, and within the cell great increase of pigmentation with degeneration of Nissl's bodies, excentric arrangement of nuclei, and loss of protoplasmic processes. Similar, but less marked changes were found in the column of Clark, while in the olivary body the cells, although deeply pigmented and surrounded by increased lymph spaces, showed no degeneration of the Nissl bodies and their nuclei were spherical and centrally placed. The increase in the neuroglia and in the number of capillaries was found in slight degree in the medulla, the cerebellum, the pons and the cerebral cortex, while the basal ganglia showed enormous increase in the number of capillaries, but no change in the amount of neuroglia. In the motor cortex there was seen a general round cell infiltration and the cortical cells showed changes identical in character, but not as extensive as those found in the anterior cortical cells.

Gardinier follows the account of his own case by a careful summary of the microscopical findings in the twenty-four cases that have been thoroughly examined, and then considers at some length the question of whether a distinct pathological basis has been established for the disease. He concludes that it has and says: "The primary seat of the pathological changes of paralysis agitans is, doubtless, in the blood vessels. It starts with an endarteritis and periarteritis and consequent proliferation of the neuroglia in the immediate neighborhood followed by the production of islets or patches of perivascular sclerosis, which are characteristic of this disease. They are ordinarily found in the cord only and are confined to the white matter with an especial predilection for the lateral and posterior columns of the lumbar and cervical enlargements. The changes in the cells are, in all probability, secondary and due to a gradual diminution of nutrition dependent on the vascular changes." He also considers the tremor and rigidity due to one and the same cause, namely, an irritation from the increased neuroglia in the posterior columns, producing an excitability of the reflex collaterals of the posterior nerve-roots arborizing about the ventral cornual cell, which results in an increase of the normal rythmic discharges of energy from those cells, causing at first the tremor and later the rigidity. He explains the cases which show no tremor by supposing that there is a "progressive and rapid growth of neuroglia, the irritation of which in the posterior columns so increases the excitability of the reflex collaterals that the voluntary muscles are kept in a condition of constant contraction, the stronger ones overcoming the weaker, and thus producing the characteristic attitude with an absence of tremor."—W. A. J.

OBSTINATE HICCOUGH.

Dr. F. R. Millard, of San Diago, Cal., says: It may be widely, but I do not think it is universally known that pure ground mustard is a valuable remedy with which to combat this condition. Put a tablespoonful of ground mustard in a teacup and gradually fill the cup with boiling water, stirring it until cold. Strain or let it settle and give one or two tablespoonfuls every 10 or 15 minutes.

During the twenty or more years that I have used it, it has seldom been necessary to prepare the second cupful for the same attack, and never the third, unless after having been absent some time the hiccough returns. So far as known this prescription was first given to one of another race, by the "wise woman" belonging to a band of Spanish gypsies.

A NEW OVARY.

The Medical News of Aril 29 gives the details of a case where a bilateral oöphorectomy had been performed and a healthy ovary transplanted from a woman whom it was necessary to render sterile. Of course the matter was fully explained to both women. The experiment was entirely successful.—Med. Times.

CLINICAL MICROSCOPY.

UNDER THE CHARGE OF

J. FRANK CORBETT, M. D., G. D. HEAD, M. D.

RECENT PROGRESS IN BACTERIOLOGY.

(Read by Dr. Adolph Gehrman before the Chicago Academy of Sciences, Oct. 24, 1899, and published in The Plexus.)

It is true that every one is not willing to admit that bacteriology is a science. By many persons it is still thought of as the germ theory and meetings are occasionally announced for a discussion of the germ theory.

Although all the important knowledge regarding bacteriology has been learned during the past twenty years, the number of startling discoveries have not been as numerous during the past four or five years as in the period from 1880 to 1895. At present new facts are obtained with greater difficulty and the investigators' field of research is becoming so complex that considerable experience is required to even follow the experiments. New possibilities of the practical application of bacteriology are constantly appearing and the field of study is now so wide that the student who wishes to accomplish anything at all must confine himself to some very small part of the subject.

I have arranged the material at hand under the headings of Progress as Related to Bacteriologic Biology, to methods of examination, and in relation to the arts, and in medicine and in Sanitation.

The study of bacterial cells themselves has not produced many new facts. There have been no marked improvements in the miscroscope during the past ten years. The individual cell is, therefore, nearly as far away as it was to the first observers. It is now admitted, however, that the protoplasm of bacteria is almost entirely of a nuclear nature, with but a small film of protoplasm about the nucleus. Some facts have been phism among the bacteria. Recognizing this has helped to clear away many of the apparent contradictions in early observations. Through the observations of Flexnor and Hill, the discovery of modified forms of tubercle and diphtheria bacilli give additional proof of the close relation of the bacteria to the mould plants and therefore further establishing that bacteria are plants.

New facts as to the distribution of bacteria are being learned. During one of the recent polar expeditions bacteriologic observations were made. These showed an almost entire absence of bacteria in these regions. Bacteria were cultivated from sea water, but not in great numbers and it is proposed that those found on shore and in ice came from the sea. The air was frequently found entirely sterile. Examination of the intestinal contents of the animals killed was made and showed those of birds to be free from bacteria. The intestines of several polar bears that were tested showed some bacteria, but not as numerous as in animals further south. In regard to the condition found in the birds we have additional knowledge to disprove the proposition that the presence of bacteria in the intestinal canal is necessary for digestion.

The distribution of bacteria in sea water has been studied by almost every scientific ocean expedition. Bacteria are found in all the oceans, but are most numerous from one to two feet below the surface down to a depth of twelve to fifteen feet; at great depths not many are found.

The effect of sunlight is given as a reason for the smaller numbers at the surface.

The chemistry of bacteria is being studied by numerous observers and the results indicate that there are still unknown possibilities in organic chemistry.

Ehrlich's observations on the action of tetanus poison upon nervous tissue are interesting. When the poisonous products of the tetanus bacillus come in contact with brain tissue a combination with the albumen of the brain cells takes place. This new product is more poisonous than the original tetanus poison. The action between poison and brain tissue takes place either in the living body or after death. Many of the facts of this disease are explained through these observations and from a chemical standpoint the possibility of albumen combining with other substances is established. These combinations are called "seitenketten" by Ehlich.

In the methods of examination of bacteria there have not been any radical changes or improvements recently. However, the tendency is to simplify everything so that now a large part of the work is comparatively easy, when compared with the methods first devised. In this commotion, however, it is firmly established that the reaction of culture media must be uniform and carefully adjusted. The experiments of Mr. Fuller have given origin to what is called the Massachusetts scale for reaction of culture media. Many of the discrepancies in bacteriologic observations have been due to differences in culture media and it is now the intention to have all bacteriologists work alike.

Bacteriology is assuming great importance for the agriculturalist and farmer. It has been found of value to him in assisting him in the preparation of the soil for his crops; in the conversion of some of his products as in the making of butter and cheese; in the diagnosis of diseases among his animals, and the discovery of its origin; and in the treatment of animals and prevention of infectious disease. Max Hoffman, in a recently published hand book on this subject, places the material at hand in most convenient form for the use of farmers.

The activities of bacteria in the soil are of great importance; they stand between living and dead matter, converting the former after it has completed its function in life in such a manner that it can again be utilized by future generations of plants and animals. The principal activities are in the directions of breaking down the complete molecules of organic substances into simple combinations, NH_3 CO_2 H, N CH_4 and HS_2 and in fixing valuable elements as nitrogen in the soil.

There is a marked symbiosis between some plants and certain varieties of bacteria. The recent introduction of nitrogin and alinit in Germany have given an impetus to this line of investigation.

These two substances, nitrogin and alinit are bacterial fertilizers that have the power to assist plants of the starch producing varieties to grow more luxuriantly and produce considerable larger quantities of their valuable constituents. Nitrogin assists leguminous plants by making CO_2 more easily assimilated. Alinit acts much in the same way towards wheat, oats, rye and other grains. Experiments in pots show that grains planted upon poor, sandy soil to which alinit is added yield three or four times as much grain as those without its assistance.

The practical experiments of Frank, Berthelot and Winogradski show an increase of 40 per cent. in the growth and product derived from oats and wheat. The bacterium esential to alinit has been called bacillus ellenbachensis. Other varieties of bacteria have been isolated, the action of which is almost entirely confined to isolating ammonia from organic matter.

The nasent amonia combines with sodium and potassium and nitrates are produced. These remain in the soil and are later acted upon by denitrifying bacteria or those that separate NH_3 or even the N from the sodium or potassium.

Another recently open field of investigation regards the fermentation in wine making. Wortman has been working on this subject and has found that different species of bacteria and yeasts cultivated from the soil in the Rhine district, and from the wine vats in localities where specially good wines are produced, are the chief agents in the development of a fine wine. He has claimed that cider can be converted into any kind of wine depending upon the varieties of organisms used in its fermentation.

A recent statement from the U. S. Agricultural Department says:

"The use of artificially-bred yeast for red wines has been adopted extensively of late, and laboratories in Switzerland, as well as in France, are putting these bottled fungi on the market in large quantities. It is found desirable to employ for each kind of wine its own peculiar germs—for example, Burgundy yeast for Burgundy, and so forth—rather than to mix them up. Each species of fungus seems to patronize by preference a particular sort of grape juice, and does not do such good work when applied to any other sort. The contents of each vat are sterilized by heat before the fluid culture is put in.

In dairying bacteriology is assisting by spreading knowledge of the cause of failure in producing the desired result and in teaching cleanliness.

Considerable knowledge concerning the bacteria causing disease and the prevention of these diseases has recently been discovered, but there has been nothing of a startling character; the investigations have mainly thrown light on disputed points, and have established certain facts already known.

Among bacteria causing disease the bacillus of influenza and of yellow fever are being accepted as the essential agents in these diseases. The observations of Dr. Reed that place the yellow fever bacillus in the hog cholera group of bacteria are important. The recent observation by Klein in England, and Class in this country, regarding the micrococcus of scarlet fever require further investigations to render them conclusive.

In regard to the transmission of disease, much is being presented and some of the subjects are very interesting. Simond found, during his investigations in China and India, that the mode of spread of Bubonic plague takes place from man to man and from rat to rat. Spreading of the disease over large areas is mainly caused by man, while extension over small areas is caused by the rat. The intermediary agent between infected individuals and the healthy, are fleas. Roux has shown that rats and other rodents may be infected by rubbing infectious material upon their noses. Yersin has verified these observations. It is now clear that the fleas infect one rat after another, and when the rats die the fleas find a new host, and if not at once finding a home upon a furry animal they may lodge upon man and infect him through their bite. The infection from man to man in the absence of vermin is miminal, as is shown by the records of well organized plague hospitals.

Rats without fleas may be infected by caging them with immune rates having fleas, or by placing fleas in their fur. The plague, therefore is a disease that is not to be feared in a sanitary locality, but is extremely dangerous in a dirty, vermin-infected district.

Recent observations as to the transmission of malaria are very interesting. Major Ross, of the East Indian service, found in an examination of the mosquitoes about the camp where he was stationed, that portions of their bodies, especially that part about poison sacs and along the lymph channels, were at times filled with malaria-like organisms. He has also found malaria organisms in the blood of sparrows and was led to experiment as to the possibility of infecting them from mosquitoes. Sparrows were obtained from England, the blood of which was free from malaria. Infected mosquitoes were placed in cages with sparrows and infection of the birds promptly resulted. His recently reported observations in the British Medical Journal show that sparrows having malaria may infect malaria-free mosquitoes and these in turn malaria free sparrows, when the three are caged together.

Nuttall, of Berlin, has reviewed all of the work along this line and substantiates the results. The facts are valuable in indicating means for prevention and in showing the important relation that insects bear to the propagation of diseases. Petrolum is now spread over marshy land in order to kill the larval mosquitoes. Among other interesting observations may be mentioned some relating to serum diagnosis.

Serum diagnosis in diphtheria has been studied by Bruno, who finds that agglutination or clumping of the diphtheria bacillus takes place with the blood serum of diphtheria patients or those immunized against the disease. The reaction, however, does not appear early enough or remain constant so that the test as a means of diagnosis can supercede the methods of examining throat cultures.

Kraus and Seng report observations upon the mechanism of agglutination in the serum test for typhoid fever. They reach the conclusion that the phenomenon is caused by precipitation of albuminous constituents that act as a coagulum sticking the bacteria together. They base their opinion upon the effect of other substances in causing agglutination, as cinnebar, ultramarine and alcohol. The change that takes place among the bacteria is, therefore, dependent upon the presence or absence of substances capable of causing this precipitation.

Serum diagnosis with the bacillus icteroides in yellow fever is an established fact. Archinart, of New Orleans, reports observations regarding this subject. His conclusions are:

1. The practical application of serum diagnosis in yellow fever is established.
2. It appears about the second day of the disease and may persist as long as nineteen years after an attack.
3. To make the results certain the serum should be diluted 1 to 40 and the reaction should appear in one hour.
4. Dried blood may be used.
5. Arangements for making the test should be at hand in all localities where yellow fever may occur.
6. The diagnosis is especially valuable in the beginning of epidemics when other diseases might similate yellow fever.

Recent progress in bacteriology of sanitation and preventative medicine has been important. The observations of Fleugge, Klebs and Godstein have shown that the particular source of infection in surgical operations is due to the spraying of small particles containing infectious material that may come either from the breath of those present in the room or from the splashing of infected water. Plates containing culture media were exposed in various portions of the operating room, and persons in other parts of the room coughed, sneezed and splashed water. It was found that the number of bacteria that grew upon the places was in direct proportion to the severity of the coughing or to the strength of the currents of air passing in that direction. An interesting review of this subject has recently been published by Dr. Clausen. Out of this has developed further and more stringent methods as to the prevention of infection in surgical operations.

The action of sunlight upon bacteria has been receiving considerable study in England. Observations on the water in the Thames show that strong sunlight rapidly decreases the number of bacteria at the surface, and that its action is marked to a depth of 15 to 18 inches

In regard to general methods of disinfection, the introduction of formaldehyd has caused a most important change from the older methods. The action of this substance seems to be peculiarly destructive to bacteria. The effect, apparently, is brought about through the fact that the bacteria are single cells and that the formaldehyd can, therefore, rapidly enter in contact with their structure. In the case of higher animals or plants, which are not as readily killed as bacteria, the failure to obtain an effect is due to the combination of the formaldehyd with substances on the surface of the cells without destroying those in deeper layers. Formaldehyd is therefore recognized as the most certain and powerful surface disinfectant known; but its penetrating powers are limited, owing to its alteration in passing through various substances.

In our work in the department of health formaldehyd is used exclusively as a disinfectant, and its reliability is evidenced from the effect it has upon cultures and test objects exposed in apartments under treatment.

In closing this summary of more important work that has been done in bacteriology during the last few months, I can only say that every advance that is made opens up a field of wider and wider range; but places the investigator in the same position as the chemist, who is making investigations along his particular line. We are obliged to follow so closely such a small portion of the entire subject and so little can be accomplished even with the most painstaking and long continued experiments that sudden and startling observations, such as the early observations of Tyndal, Pasteur and Koch, are not to be expected.

A patient was exhibited at the recent German National Dental Congress, whose entire upper jaw had been removed and replaced by an artificial contrivance, the work of Privatdocent Jessen, of Strasburg, and the dentist Hahl, with alveolar process and teeth, the two halves connected with springs. It was worn without inconvenience and enabled the patient to speak. Before it was applied articulation was impossible.

Hospital Clinics.

ST. BARNABAS HOSPITAL.

State University Clinic by Dr. C. H. Hunter.

TYPHOID FEVER IN A CHILD.

Through the courtesy of Dr. Condit I present you this little child that has been the distress of its nurse for the week that it has been in the hospital. In the presence of this sort of case one sympathizes fully with the perplexities of Dr. Sims as narrated in his autobiography, and feels the chagrin that led him to drop his bright new sign into the deep well in his father's back yard. His, by the way, is a life that will repay your reading.

The child is thin. Its tongue is whitish. It cries, not to say shrieks, constantly. It does not recognize its mother. It rolls its head till the occiput is bare. It strains with the knees drawn up till Dr. Condit suspected bladder trouble, like stone, the absence of which he has, however, demonstrated. It is constipated, though the stool I saw was small, mushy, dark, the watery part staining the didy and not particularly foul. Its abdomen as you see is distended, free from any tender swelling, either in the right iliac or hypochondriac regions. The splenic dullness, however, seems to reach nearly to the free border of the ribs. The heart and lungs are normal. There is no albumen in the urine. The mental condition of this patient seems to be that of delirium. It should be stated that the pupils have been normal, as you can see that they now are.

Now, from this examination can you make a diagnosis? The diagnosis does not appear obvious. Though there are head symptoms, they are not psychic. There is no squint, the cervical muscles are not stiff, nor is Kernig's sign present. Meningitis has been suggested, but it does not seem to me sufficiently probable to induce me to do the lumbar puncture to demonstrate it. Though, as you know from the case reported upon at the last clinic by one of the class, we are having cases in town. We will then listen to the history as taken by Dr. Condit when, perhaps, the diagnosis will be apparent.

HISTORY OF THE CASE.

"Earl B., male; age four years, two months and twelve days. The child is rather small for its age, body poorly nourished, and looks anæmic. Mother a widow of very slight stature, of poor circumstances, and lives in two roms on second floor of a tenement building, rooms poorly ventilated and lighted. Child has a younger brother two years old and exhibits same family traits as found in the mother and brother. Patient first noticed as not feeling well on Nov. 20th, 1899, but little attention was paid to him. Mother was away from home for one week, dating from Nov. 23 (Thursday) and child was under care of its grandmother, who thought the child was having an attack of indigestion. Child was constipated and not eating well. Mother returned home Thanksgiving (Nov. 30); child complained of being cold and chilly, was in bed and feverish. Dr. Condit was sent for, but being out of the city Dr. Campbell (Asst. City Phys.) was called and prescribed for the child calomel, and a sedative was given. Child had two good movements of the bowels, but became slightly delirious and more feverish on evening of Dec. 1st. Dr. Condit first saw the patient Dec. 3rd, 11 a. m., and found it feverish, some difficulty in passing water, due to a long adherent prepuce, which was stripped back and cleansed. Calomel was prescribed and given with no results until an enema was given, when, a very constipated movement resulted. It was planned to do a circumcision of the patient on Dec. 9th, as it seemed advisable, and Dr. C. had done the same on the younger brother a few weeks previous with very marked improvement in general health of the child resulting. On Dec. 9 the patient was much more feverish and weakened, so the operation was postponed indefinitely. Patient was admitted to the hospital Dec. 10th, 5:30 p.m.; temp. 103°(rectum) pulse 140. Analysis of urine showed: Reaction acid sp. gr. 1014. Absence of chlorides and slight increase of phosphates; otherwise urine was normal. Temperature began to fall in a. m. of Dec. 11 until at 4 p. m. it was 100° and on a. m. of Dec. 12 was 98°. Child seems in a dilirium, does not recognize its mother, and lies on its back rolling its head from side to side screaming and crying almost constantly. Two grains of calomel and two drachms each of castor oil and syrup of rhubarb was given with no results. Dec. 12 an ounce of castor oil and one-half ounce of syrup of rhubarb was given in divided doses of one drachm each with no results until an enema was given, when a profuse movement resulted. Leucocyte count on 12th, 3,000; temperature did not go above 101°. Leucocyte count of Dec. 13th, 4,000; tongue slightly coated.. Laboratory reported partial Widal reaction on specimen sent in on Dec. 11th; and another specimen sent in on 13th, and a positive Widal reaction reported on the 14th. Temperature did not rise above 101° on the 14th, and has not been above 99° since the 15th. On the 18th temperature began to run normal or slightly subnormal and has been so ever since. The delirium ceased on the 15th, and child has been gradually improving since. Tongue is now (28th) beginning to clear up, and child to gain strength."

THE DIAGNOSIS.

The history also gives you no sure clew to the diagnosis. Not until a laboratory method is applied and you get the reaction characteristic of typhoid fever do you get an illuminating light on the case. An ailment lasting as this has for over a week, with a temperature curve, showing a morning remission, is in our state extremely likely to be typho, whether it has occurred in child or adult. No rose spots were noticed, and, even had they been, I would warn you against deeming them conclusive. We see the child in the third week when rose spots would not be expected to be present. Constipation does not militate against the diagnosis of typhoid fever as we met it in our city. Dullness of the spleen the continued fever, the whitish tongue, and the delirium, should lead one to suspect typhoid—fully confirmed, I judge, by the Widal reaction being present. Previous to its application such a case as this would have in all probability been overlooked.

As a student I was taught that typhoid was a rare disease of childhood. The irregular development of the symptoms, there being no touchstone by which the infection could be demonstrated, may account for this opinion, which is certainly changing. Hare has unearthed some reports of Taupin, however, that show that at least one of the older observers (1839) was alive to the fact of its frequent occurrence among children. This case illustrates, too, a dictum of Hare, given in his book, "Medical Complications of Typhoid Fever," that the diagnosis of typhoid fever in children must be largely upon the chance development of the characteristic symptoms: rash, enlarged spleen, and more than all, upon the Widal reaction. This book of Hare's is one that Dr. Osler has recently said that none of us can afford to be without. You should own and know this work, for of typhoid fever you cannot know too much.

TYPHOID FEVER AMONG OUR SOLDIERS IN THE LATE WAR.

Dr. Victor C. Vaughan (American Journal of the Medical Sciences, July), who was appointed a member of a commission to inquire into this subject, writes as follows:

"To summarize concerning the so-called protracted malarias reported by the regimental surgeons, we will say that, in our opinion, practically all of these were typhoid fever, and the following are our reasons for this opinion:

"1. The uneven distribution of the so-called malaria among regiments encamped side by side gives us cause to suspect that these were not malaria.

"2. Some of the surgeons who failed to record their cases as typhoid state in their comments that typhoid fever prevailed in the regiment. One illustration of this may be of interest. From April to November there were in the Sixth Ohio, according to the recorded diagnoses in the monthly reports, only two cases of typhoid fever. Notwithstanding this fact, the acting assistant surgeon in charge at that time writes in the October report the following statement: 'The health of the command is improving. The prevailing disease that has caused the sickness that we have had is typhoid fever.' Yet the September report showed only one case of typhoid fever, and the October report showed only one case, this one case being one and the same patient, carried from the August report on to the reports for September and October.

"3. The results of several hundred blood examinations show that malaria was a very rare disease among the troops that remained in the United States.

"4. Malaria, as it exists in this country, is easily controlled by moderate doses of quinine. All the so-called protracted malarias in our camps were treated with large doses of quinine, but were not improved thereby. Consequently, we must conclude that the diagnosis given these cases was erroneous.

"5. The mortality of the so-called protracted malarias corresponds with the mortality of typhoid fever, and furnishes most positive proof that these cases were not malarial."

Concerning the question of changing camps, Dr. Vaughan says:

"The influence of change in location of camps upon the continuance of typhoid fever is exceedingly interesting. We have not investigated this subject as thoroughly as we hope to do. At present, however, I think that we can give the following conclusions:

"1. A regiment thoroughly infected with typhoid fever does not lose the disease when it changes its locality, even when it goes to a perfectly unobjectionable site, and leaves all its sick behind. Evidence of this is shown in the history of the whole of the Second Division of the First Army Corps when it moved from Chickamauga to Knoxville. At Chickamagua Park this division became thoroughly saturated with typhoid fever. After reaching Knoxville, and notwithstanding the fact that the camp site was probably as fine as any in the world, the water supply unobjectionable, the nature of the soil suitable for the digging of sinks, surface drainage good—notwithstanding all these advantages, typhoid fever prevailed more largely than it did at Chickamauga. It is altogether probable that the clothing, blankets and tentage of the men became thoroughly infected with the typhoid bacillus. When a regiment becomes saturated with typhoid fever, change in location alone is not sufficient to get rid promptly of the disease. We believe that it is necessary in such a case thoroughly to disinfect clothing, blankets, tentage, etc.

"2. If a regiment is moved before the infection has become marked, typhoid fever may disappear, or, at least, decrease.

"3. Apparently a sea voyage of some days or weeks might rid a command not widely infected with typhoid fever, of the disease. We have some illustration of this in the troops that went to Cuba. For instance, about half of the First Volunteer Cavalry went to Cuba, while the other half remained at Tampa. Before the departure for Cuba, and while the regiment was all together, typhoid fever appeared, and its prevalence was confined to those companies that went to Cuba. Apparently this part of the regiment lost its typhoid fever on its way to Cuba, while the part that remained behind became badly infected.

"4 A regiment thoroughly infected with typhoid fever does not lose the disease or lessen the number of cases after a short voyage at sea. This was illustrated by the Nineteenth Infantry, which, after becoming thoroughly infected with typhoid fever, was transported to Porto Rico. The progress of the disease was not apparently in the least retarded by this voyage."

SURGICAL SUGGESTIONS.

Evacuate pus wherever found. To wait for the action of poultices to decompose the skin, or "draw" the pus, is unworthy a modern surgeon.

Immediate amputation of an injured member is now seldom required. Control hemorrhage, dress antiseptically, and await reaction.

While the foregoing treatment will give by far the best results, altogether it must be remembered that the danger from cardiac and pulmonary embolism is increased where an effort is made to save bruised tissues.

A wise surgeon sacrifices no tissues that, if saved, would prove useful.

Flaps, in order to heal kindly, must be free from tension.

Err in making flaps too long rather than too short.

In amputation, where bones are sawed, it is most difficult to keep thorough asepsis until the healing process is complete.

Bandages should be adjusted so as to control hemorrhage from the stump after amputation, but great care must be taken that they be not drawn so tightly as to affect nutrition by obstructing the circulation.

Unless there are indications, such as rise of temperature, soiling of the dressing, or hemorrhage, a single dressing should suffice for an amputation.

Do not inject cysts or vascular tumors with remedies tending to produce coagulation unless free drainage is provided.

Cysts should be evacuated or dissected out, while vascular tumors are best treated by excision or cutting off the blood supply.

Varicose veins should be ligated at suitable points and the intervening portion of the vein removed.

Injecting varicose veins with astringents and irritants is unsatisfactory, and not without danger.

Arteries and veins should be ligated with as little manipulation as possible.

Esmarch's bandage has rendered operations upon bones almost as simple as upon the cadaver.—Dr. Bell, in Medical Herald.

It is stated that quinine is indicated only in such cases as have a moist skin and tongue.

SURGICAL USE OF COCAINE.

1. The use of cocaine should not be abandoned because its irrational employment has produced deleterious results.
2. Always make a thorough physical examination of the patient before injecting the drug.
3. It should not be used in cases showing organic disease of the brain, heart, lungs, or kidneys, or in persons of neurotic diathesis.
4. Children bear it fully as well as adults.
5. The patient should always be placed in a recumbent position prior to its employment.
6. Constriction should be used whenever possible to limit the action of the drug to the desired area.
7. Use a freshly prepared solution for each case.
8. Distilled water should always be employed, to which phenic, salicylic, or boric acid should be added.
9. A two per cent. solution has a better effect and is safer than solutions of greater strength.
10. Never inject a larger quantity than one-and one-eighth grains when no constriction is used.
11. About the head, face and neck one-third of a grain should never be exceeded.
12. When constriction is possible the dose may be as large as two grains.
13. Every slight physiological effect is not necessarily to be taken as cause for alarm.
14. Cocaine does have effect upon inflamed tissues.
15. In case alarming symptoms occur use amyl nitrate, strychnine, digitalis, ether, or ammonia.

To which we will add: Always use a chemically pure product, free from isatropyl and cinnamyl-cocaine, as well as other impurities, the presence or absence of which can be readily ascertained by the simple tests of the United States Pharmacopeia.—New England Medical Monthly.

MILK AS AN ANTIDOTE.

The Pharmaceutical Era calls attention to the fact that milk is a useful antidote to most cases of poisoning. By its fatty matter and its casein it protects the mucous membrane against the corrosive action of acids, alkalies and other caustic or irritant substances. The chemical role of casein is here very remarkable and valuable. It is able to fill the double part of acid and base, in the presence of compounds with which it is brought in contact. It not only coagulates under the action of acids by combining with them, but it also yields a precipitate with most mineral bases, forming insoluable caseates.

If precipitation does not immediately take place with a product having a given reaction—acid or basic—this precipitate will appear through the intervention of another substance of contrary reaction. Dr. Crowzel proposes to add to the milk five per cent. of borate of soda. This salt is non-toxic and is employed because it precipitates as insoluable borates all the mineral bases, except harmless or slightly poisonous alkaline bases.

THE DISTRIBUTION OF MEDICINE SAMPLES.

Attention has recently been called to the pernicious practice of leaving patent medicines from house to house. Two sudden deaths lately occurred in Philadelphia in which these sample pills, powders, etc., played a prominent part, and as a result Coroner Dugan has addressed a letter to Director English, asking him to take any action necessary. We have all observed from time to time the careless and indiscriminate way in which these samples are thrust under doors, thrown into vestibules, etc., and the only wonder is that more cases of acute sickness and poisoning are not reported as following the practice. Children are prone to quickly transfer to the mouth, any edible-appearing morsels, and the ingredients which go to make up the ordinary "painkiller" are not exactly suitable for such purposes. Proper legislation would be very welcome.—Lehigh Valley Medical Magazine.

SOLID FOOD IN TYPHOID FEVER.

W. Buschejew (St. Petersburg Med. Woch.) reports better results with a series of eighty soldiers with abdominal typhus, fed with bread, a chop, boiled meat, eggs, milk, tea, wine (one or two ounces), than with a series of seventy-four fed with liquid food. Since the introduction of solid food two years ago there has been but one death from perforation and two from generalized peritonitis, out of 509 patients. There were no local complications from the solid food, the general health was less depressed and recovery more rapid.—Rev. of Med. and Surg. Progress.

WHEN IT IS GOOD TO BE AT HOME.

"Well, Maggie," asked a teacher of a little girl, "how is it you are so late this morning to school?"

"Please, sir," was the reply, there was a wee bairn cam' to oor hoose this mornin'."

"Ah!" said the teacher, with a smile; "and wasn't your father very pleased with the new baby?"

"No, sir; my father's awa' in Edinburgh, and dinna ken aboot it yet; but it was a good thing my mither wis at hame; for gin she had been awa', I wadna hae kent what to dae wi' it."—Sanitarian.

There are more blind people among the Spaniards than any other European race.

BIGAMY PROHIBITED.

"Boys," said a superintendent of a Sunday school, "can any of you quote a verse from Scripture to prove that it is wrong for a man to have two wives?" He paused, and after a moment or two, a bright boy raised his hand. "Well, Thomas?" said the teacher encouragingly. Thomas stood up and said, "No man can serve two masters." The question ended there.

PARAFORM FOR WARTS.

Meuse (Dermatologische Centralblatt, April; Medical Review, September) recommends paraform for the treatment of warts on account of its penetrative power. He has also used it in papular syphilides and in psoriasis palmaris. The drug is made up with collodion (ten per cent.). Usually after two or three days the epidermis peels off.

GOT IT.

Thrifty Throckmorton (meeting physician, apparently by accident) "Hello, doc! you're looking first-rate. If you had a constant tickling in your throat—hem!—as I've got, you wouldn't be looking so spry, I'll bet a dollar. What do you generally do—hem! hem!—doc, when you have a tickling in your throat?"

HIGH-PRICED DOCTOR.

"You are now convalescent, and all you need is exercise. You should walk ten, twenty, and thirty miles a day, sir, but your walking should have an object."

Patient—"All right, doctor. I'll travel around trying to borrow enough to pay your bill. —New York Weekly.

PRACTICE.

Old Doctor (to Young Beginner)—"Are you having much practice now?"

Young Beginner—"Yes, sir; a great deal, thank you."

Old Doctor—"Ah, I am glad to hear it. In what line is your practice particularly?"

Young Beginner—"Well, sir, particularly in economy."

SOUND ADVICE.

Patient—"Doctor, I can't sleep at nights. What shall I do?"

Doctor—"Get a position somewhere as night watchman."

TAKE HEED.

Watts—"Doctor, do you believe that the use of tobacco tends to shorten a man's days?"

Dr. Bowless—"I know it does; I tried to quit once, and the days were about eighty hours long."

Medical Literature.

BOOK NOTICES.

A MANUAL OF DISEASES OF THE EYE. By Edward Jackson, A. M., M. D., Emeritus, Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. Six hundred pages, cloth, 178 illustrations and colored plates. Published by W. B. Saunders, 925 Walnut Street, Philadelphia. Price $2.50 net.

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*ORIGINAL JOURNAL ARTICLES.

THE WEEKLIES.

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November 4: Outlines of urethroscopic diagnosis with special reference to chronic gonorrhea (illustrated), F. C. Valentine, N. Y. C.—Report on the Schleich solution, R. M. Stone, Omaha.—Excessive myopia: when may we operate and what may we expect, A. Timberman, Columbus.—Enteric fever, its infection, pathology, and present treatment, Franklin Staples, Winona.—The revision of the pharmacopeia, A. L. Benedict, Buffalo.—A plea for the aged, J. W. Bell, Minneapolis.—Sputum analysis and the early diagnosis of pulmonary tuberculosis, S. E. Solly, Colorado Springs.—Convulsions in infants and young children, C. G. Slagle, Minneapolis.—Concerning the complications of acute otitis media purulenta, A. S. Allen, Cin.—Enzymes in the treatment of nasal polypi, angioma of the nose, and chronic otitis, T. R. Chambers, Jersey City.—Therapeutics of kola, C. C. Yarbrough, Detroit.—Floating kidney simulating diseases of the genital organs in women, A. L. Smith, Montreal.

November 11: Four cases of cerebellar abscess, one success, two autopsies (illustrated), B. A. Randall,

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Phila.—Report of case of brain and other abscesses and non-perforative suppurative otitis media, D. M. Greene, Grand Rapids.—Fractured base, with deafness, tinnitus, vertigo, exophthalmus, facial paralysis, mastoiditis, J. A. Stucky, Lexington, Ky.—Intestinal lesions, with report of five cases of resection of the ileum, T. A. Ashby, Balt.—Some clinical observations in rectal diseases, B. Sherwood-Dunn, Boston.—On the relation of diseases of the accessory cavities to diseases of the eye (illustrated), J. H. Bryan, Washington.—Eye troubles attributable to naso-pharyngeal and aural disturbances, J. A. White, Richmond.—Some of the ways in which X-rays assist in medical diagnosis (illustrated), F. H. Williams, Boston.

November 18: The antenatal and intranatal factors in neonatal pathology; an attempt to explain the peculiarities of the morbid states of the new-born, J. W. Ballantyne, Edinburg, Scotland.—Serous cyst of iris following discission for milky cataract (illustrated), S. C. Ayres, Cin.—Case in which both eyes were lost from chroidal hemorrhage subsequent to extraction of senile cataract, A. R. Baker, Cleveland.—Some ocular manifestations of arteriosclerosis, C. H. Beard, Chicago.—The vegetable neurotics, G. F. Butler, Chicago. —Sulphate of magnesia, J. C. Culbertson, Cin.—The preparation and administration of pills, tablets and capsules, H. Finkelpearl, Pittsburg.—Treatment of naso-pharyngeal adenoids (illustrated), L. J. Lautenbach, Phila.—Nature and treatment of cutaneous cancer (illustrated), A. Ravogli, Cin.—Recent phases in psychiatry, W. G. Stearns, Chicago.—Preliminary report of anterior transplantation of the round ligament for displacements of the uterus (illustrated), A. H. Ferguson, Chicago.

November 25: Goitre, anatomy of the thyroid gland, pathology and treatment of goitre (illustrated), F. C. Schaefer, Chicago.—Prevention and treatment of cancer of the uterus, A. L. Smith, Montreal.—Advances in the surgical treatment of strasbismus (illustrated), E. Landolt, Paris.—Nutrition of the lens and its relation to cataract formation, L. Strickler, Cinti.—A case of laryngotracheal stenosis (illustrated), T. Hubbard, Toledo.—Infective granulomata of pharynx: glanders, E. E. Musson, Phila.—Nasal and aural complications in epidemic influenza, S. F. Snow, Syracuse. —Dynamics of school puberty, H. H. Hatfield, Chicago.—Further observations on the therapeutics of the chlorid of gold and sodium, D. R. Brower and C. J. Habbegger, Chicago.—Obstructive growths of the pyloris, with a report of a successful case of pylorectomy (illustrated), E. Allaben, Rockford, Ill.— Traumatisms of the male urethra, with reports of two cases, C. W. Hitchcock, Detroit.—Surgical treatment of uterine displacements, resulting from laceration of the pelvic floor, C. K. Fleming, Denver.

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December 9: Early recognition of pulmonary tuberculosis (illustrated), E. A. Knopf, N. Y. C.—The repairs of old lacerations of the pelvic floor (illustrated), M. L. Harris, Chicago.—Extirpation of the uterus, its appendages, tumors, etc., without ligatures or retention clamps (illustrated), H. P. Newman, Chicago,—La grippe, J. E. Gilcreest, Gainesville, Texas. —Cerebral hemorrhage, J. M. Aiken, Omaha.—The scope of the United States pharmacopeia, E. H. Long, Buffalo.—Surgical treatment of high myopia, H. V. Wurdemann, Milwaukee.—Very high astigmatism, T. D. Schneideman, Phila.

MEDICAL RECORD, N. Y. C. (10) November 25: A review of the history and literature of appendicitis, G. M.Edebohls, N. Y. C.—Morphinism among physicians, T. D. Crothers, Hartford, Conn.— An epidemic of intercostal neyralgia (?), T. F. Reilly, N. Y. C.—Hypertropies in the intercostal ring, D. B. Hardenbergh, Middletown, N. Y.

December 2: The formative period of uterine fibroids, G. P. Murray, N. Y. C.—Can we diagnosticate obliteration of receptaculum chyli, A. H. Smith, N. Y. C. —The cause and treatment of recurring laryngeal stenosis following intubation, L. Fischer, N. Y. C.—Two cases of Graves' disease successfully treated as intestinal auto-intoxications, C. L. Minor, Asheville.—A new gastric douche (illustrated) M. Einhorn, N. Y. C.

December 9: Electrostatic currents and the cure of locomotor ataxia, rheumatoid arthritis, migraine, incontinence of urine, sexual impotence, and uterine fibroids, W. J. Morton, N. Y. C.—The nature of expert testimony, and the defects in the methods by which it is now adduced in evidence, W. A. Purrington, N. Y. C.—The differential diagnosis between chronic joint disease and traumatic neurosis, R. H. Sayre, N. Y. C.

N. Y. MEDICAL JOURNAL. (10) November 25: Further experimental researches on the effects of different anesthetics on the kidneys (illustrated), (second paper—to be concluded next number), R. C. Kemp.—Report of cases of sudden death from pulmonary embolism following injuries or operations in the pelvic region, G. P. Biggs.—Pregnancy complicated by uterine fibroids, H. C. Coe, N. Y. C.—Pemphigus chronicus vulgaris of the larynx and mouth, J. H. Bryan, Washington.—Dry heat of high degree as a therapeutic agent (to be continued), C. E. Skinner, New Haven, Conn.—A plea for the further use of carbolic acid, F. J. Adams.—Dermatitis following the use of orthoform, G. E. Decker, Davenport, Iowa.

December 2: Notes upon x-rays and injuries of the head (illustrated), J. Rudis-Jicinsky, Cedar Rapids, Iowa.—Vaccination (illustrated), F. G. Atwood, Washington.—Further experimental researches on the effects of different anesthetics, etc. (concluded).—Discussion on anesthetics at the New York Academy of Medicine by the president, W. H. Thomson.—A case of hysterical larynx, F. E. Hopkins, Springfield, Mass.—Recurrence of the tonsil after excision, F. E. Hopkins.—Dry heat, etc. (continued from last number) —A portable operating table (weighing less than 23 pounds), J. B. Squier, N. Y. C.

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MEDICAL HERALD, St. Joseph, Mo., November: Ichthyol in the treatment of corneal ulcers, B. F. Travis, Chattanooga.—Localities of continued fever and prevention, F. Cordle, Trion Factory, Ga.—A case of multiple sclorosis and one of cerebral palsy in a child, F. P. Norbury, Jacksonville, Ill.—Abdominal surgery with special reference to work in private homes, C. Hamilton, Rome, Ga.—Nosophen antinosine, W. A. Mann, Chicago.—The SanLouis valley, W. J. Bell, St. Joseph.

THE MONTHLIES, Etc.

BUL. OF THE AM. ACADEMY OF MED., Easton, Penn. (25) December: Handbook of the American academy of medicine, with a general directory of officers and members.

MARITIME MED. NEWS, Halifax. (10) November: Remarks on puerperal eclampsia with report of cases, J. W. Bridges, Fredericton, N. B.—The nervous element in diseases of the skin, G. G. Melvin, St. John, N. B.

SANITARY HOME, Fargo, N. D. (10) January: Purity of water, D. H. Reeder.—Home protection, M. A. McBride, Mass.—The salutatory ingredients of life, C. P. Robbins.—Influence of food, S. W. Dodds.

SOUTHERN PRACTITIONER, Nashville. (10) December: The bubonic plague, by the editor, D. J. Roberts.—Rupture of the quadriceps extensor tendon, a clinical report (illustrated) R. E. Fort, Nashville.

MEDICINE, Detroit. (20) December: Milk as a carrier of infection, C. O. Probst, Columbus.—Malignant tumors of the eye, W. H. Wilder, Chicago.—General surgical anesthesia and anesthetics, E. J. Mellish, Chicago.—The treatment of syphilitic stenosis of the larynx by intubation, T. C. Evans, Louisville.

JOUR. OF SCIENTIFIC MED., Chicago. (10) November: Enlarged gland, E. Rosenthal.—About emergencies, H. Stein, Altamont, Ill.—Beta-eucane as an anesthetic in eye, nose and throat work, W. H. Poole, Detroit.—Uric acid, the diseases which it provokes and the treatment which it demaands, E. L. Gros, Paris.

THE LARYNGOSCOPE, St. Louis. (20) November: Rheumatoid arthritis in chronic disease of the middle ear, R. A. Baylies.—Shall we use cold in acute middle ear or mastoid affections, if so how long, J. O. Tansley, N. Y. C.—Epidemic of pharyngeal and tonsilar inflammation and its cause, E. V. Mock, Cambridge, Ill.—The intratympanic masseur (illustrated), W. R. Weaver, Chicago.

MEDICAL FORTNIGHTLY, St. Louis. November 15: A report of cases illustrating types of cerebral hemorrhage (illustrated), F. P. Norbury, Jacksonville, Ill.—Physiology, A. L. Benedict, Buffalo.

December 1: Lithopedion with specimen and pathological report, E. A. Crain, Missoula, Mont.—Physiology, Ibid.—The professor of bacteriology, a satirical sketch, A. Abrams, San Francisco.

N. Y. LANCET. (10) December: Rupture of the vagina during parturition, J. W. Daniels, St. John, N. B. —Bromide of strontium in the treatment of epilepsy, N. Cullinan Pontymister, Manitoba.—Hamatropine drops in muscular asthenopia, A. Bronner, Bradford.—Guaiacol carbonate and creosote carbonate in bronchitis and pneumonia, R. Seifert, Radebaul, Germany.—Somatose and meat extracts, Thomas Stevenson and Arthur P. Luff, London, England.

WESTERN MEDICAL REVIEW, Linoln. (10) December: Treatment of the pyrexias by chemical antipyretics, F. A. Long, Madison, Neb.—Obstructive growths of the pylorus, with report of a successful case of pylorectomy, J. E. Allaben, Rockford, Ill.—Operation on the cervical ganglia of the sympathetic for epilepsy, Glaucoma, and exophthalmic goiter, E. Lanphear, St. Louis.—Vesico-rectal anastomosis, J. Frank Chicago.—Puerperal insanity, M. M. Newbecker, Asylum, Neb.—Further observations on the treatment of the abdominal viscera through the colon, F. B. Turek, Chicago.—The stigmata of hysteria, B. Robinson, Chicago.—Inflammation of the duodenum and resulting reflexes, F. W. Plehn, Burchard, Neb.—Observation on the surgery of the brain, based on clinical and experimental evidence, G. W. Crile, Cleveland.—Abortion (4th paper), A. D. Wilkinson, Lincoln.

MEMPHIS LANCET. (10) December: The value of treatment in pneumonia, S. W. Purifoy, Lowndensboro.—Abscess in the uterine wall, W. W. Taylor, Memphis,—Law and medicine, similarities and contrasts, J. H. Cantrell (lawyer), Chattanooga.—A plea for the more thorough study of materia medica, E. A. Neely, Memphis.

MEDICAL BULLETIN, Phila. (10) December: Sycosis, verruca, keloid, alopecia circumscripta, a clinical lecture by the editor, Jno. V. Shoemaker.—A round-table talk on heredity, T. G. Stephens, Sidney. Iowa.—Some comments on scopolamine and other mydriactic alkaloids considered principally from a clinical standpoint , F. Woodbury, Phila.

JOUR. OF MED. AND SCIENCE, Portland, Maine, (10) December: The history and present development of wireless telegraphy, G. W. Pickard, Boston.—Annual address to the Maine pharmaceutical association by the president, W. A. Robinson, Auburn. —The pressing present need (pharmaceutical), W. F. Jackman, Orono.—A new invention (umbilical scissors), W. J. Maybury, Saco.

MEDICAL COUNCIL, Phila. (15) December: The eye, how it sees, its defects, and their cure with glasses (second paper) (illustrated), A. H. P. Leuf, Phila.—Suggestion in dysmenorrhea, J. F. Ritter, Maquoketa, Iowa.—Vaginal hystereotomy, W. H. Wathen, Louisville.—Proper nursing absolutely necessary for the successful treatment of typhoid fever, J. E. Coleman, Canton, Ill.

MEDICAL SUMMARY. (10) December: Up-to-date treatment of epilepsy, A. G. Ellis, Phila..—Clinical points on europhen, W. R. D. Blackwood, Phila. —Remarks about cancer, E. Mather, Phila.—Absorption of medicine in fever, C. E. Tucker, Joppa, Ill.—Diphtheria, points from practice, A. H. Jones, Whitewater, Ind.

K. C. MED. INDEX-LANCET. (10) December: Have we a rational medical treatment for typhoid fever, B. H. Zwart, K. C.—The destruction of cancer by electric currents, H. E. Pearse, K. C.—Report of porro operation with rare complications, and a case of tubal pregnancy operated on prior to rupture, M. B. Ward, K. C.—Endocarditis, C. F. Wainright, K. C.—Review of recent advances in our knowledge of the anatomy and physiology of the nervous system, by the editor, John Punton.

MEDICAL TIMES, N. Y. C. (10) December: The medical treatment of puerperal infection, with especial reference to serum therapy, H. W. Longyear, Detroit.—The theory of the circulation in the nervous system and its relation to insanity, H. Gasser, Platteville, Wis.—The phenomena of electricity and life, J. M. Bleyer, N. Y. C.—Recent views in regard to tuberculosis and its treatment, C. Williams, Phila.—The pelvic circulation, B. Robinson, Chicago.

ARCHIVES OF PEDIATRICS, N. Y. C. (20) December: The importance of prolonged rest in bed after acute cardiac inflammations in children, L. E. Holt, N. Y. C.—A case of heart lesions (illustrated), A. C. Cotton, Chicago.—Peliosis rheumatia in a lymphatic child, J. P. West, Bellaire, Ohio.—A case of multiple osteomyelitis in an infant, T. M. Rotch, Boston.—Scorbutic membranous colitis, J. H. Fruitnight, N. Y. C.—Infantile scurvy, mild type, F. Huber, N. Y. C.—The use of gruels as diluents of cow's milk, H. D. Chapin, N. Y. C.—Diphtheria and serum-therapy, with special reference to experiences in Cuba, J. L. Dueñas, Havana.

JOUR. OF COMP. MED. AND VET. ARCHIVES, Phila. (30) October: Biology of pathogenic microorganisms, H. J. Washburn.

BROOKLYN MEDICAL JOURNAL. (25) December: A modified procedure for the radical cure of varicosities of the internal saphenous vein, R. S. Fowler.

RICHMOND JOURNAL OF PRACTICE. (10) October: Four recent cases of gall-stones, with remarks (illustrated), H. McGuire, Richmond.—Examination of the blood in surgical diseases, H. S. McLean, Richmond.

MED. REVIEW OF REVIEWS, N. Y. C. (10) November: The influence of morbid dreaming on the development of insanity, J. L. Corning, N. Y. C.—The treatment of cancer by its own toxines, P. J. McCourt, N. Y. C.

SOUTHERN MED. JOURNAL, LeGrange, N. C. (10) November: Dry hot air in the treatment of nerve and bone diseases, Norfolk, Va.—Conscientiousness in daily practice, F. S. Harris, Raleigh.—Is alcohol an indispensable medicine, T. A. MacNichol.

ST. LOUIS MED. GAZETTE. (10) December: Treatment of nasal stenosis due to deflected septum, with or without thickening of the convex side (illustrated), J. J. Kyle, Indls.—Surgeons and surgery, C. P. Thomas, Spokane.—A plea for early operation in appendicitis, A. M. Hayden, Evansville, Ind.

SOUTHERN MED. JOUR., LaGrange, N. C. (10) December: Pneumonia and its treatment, T. M. Riddick, Woodville, N. C.—Gastric lavage, R. F. Williams, Richmond.—Ligation of the subclavical artery for a large aneurism in the axilla, report of a case, J. H. Hodges, Gainesville, Florida.

LEHIGH VALLEY MED. MAG., Easton, Pa. (10) November: The importance of early diagnosis and operation in the tumors of the mammary gland, W. L. Rodman, Phila.—A few remarks on renal calculi, with report of a case recently under observation, F. H. Spencer, Sayre, Pa.

WISCONSIN MEDICAL RECORDER, Janesville. (10) November: The diagnosis of diseases of the stomach, W. B. Metcalf, Chicago.—Diabetes mellitus, H. Speier, Janesville.—Digestion and assimilation, E. C. Rothrock, Tennessee Colony, Texas.—Thuja occidentalis, E. C. Hinman, Akron, O.

BUFFALO MEDICAL JOURNAL. (20) December: Pus in the pelvis, H. E. Hayd, Buffalo.—The administration of anesthetics, F. W. McGuire, Buffalo.—Nervous dyspepsia, B. C. Loveland, Syracuse.—A plea for the more frequent use of atropine in so-caled "ophthalmias," L. Howe, Buffalo.—Note on spermatocele, with case, J. H. Dowd, Buffalo.—Tests for albumins, B. H. Daggett, Buffalo.

MEDICAL EXAMINER, N. Y. C. (20) December: The manner in which the effect of muscular exercise upon the heart and blood vessels alters the expectancy of life (illustrated), T. S. Short, London, Eng.—A study of the head and face of interest to medical examiners, W. C. Kraus, Buffalo.—The use of alcoholic beverages as it applies to life insurance, P. J. Strathy, England.

BUFFALO MEDICAL JOURNAL. (20) December: Pus in the pelvis, H. E. Hayd, Buffalo.—Administration of anesthetics, F. W. McGuire, Buf.—Nervous dyspepsia, B. C. Loveland, Syracuse.—A plea for the more general use of atropin in so-called "ophthalmias," L. Howe, Buf.—Note on spermatocele with case, J. H. Doyd, Buf.—Tests for albumins, B. H. Daggett, Buf.

THE LARYNGOSCOPE, St. Louis. (20) December: A review of the present position of intra-tympanic surgery in chronic suppurative ottitis and in sclerosis of the middle ear, G. Ferreri, Rome, translated by St. Clair Thompson, London.—History and discussion of a case with Menière's syndrome, H. N. Hoople, Brooklyn.—A new nasal septometer (illustrated), E. Pynchon, Chicago.

MED. AND SURG. MONITOR, Indls. (10) November: Old remedies and modern methods, L. L. Todd, Indls.—Histology; its importance to the general practitioner, J. T. Scott, Indls.—Appendicular abscess evacuated through the pleural cavity, R. B. Wetherill, Lafayette.—Responsibility of the anesthetist, report of a death from chloroform, F. C. Ferguson, Indls.

CHICAGO CLINIC. (10) November: A unique case of double inguinal hernia (illustrated), W. T. Eckley, Chicago.—The diagnosis of incipient phthisis, J. H. Salisbury, Chicago.—Membranous conjunctivitis produced by bacillus influenza; foreign body imbedded in lens removed by electro-magnet, F. A. Philips, Chicago.—Anesthesia and anesthetics (illustrated), W. A. Kuflewski, Chicago.—Some demonstrations in proctoscopy (illustrated), J. R. Pennington, Chicago.

JOUR. OF THE MISS. S. MED. ASS'N, Biloxi. (10) December: Variola as I have seen it in Mississippi, H. H. Haralson, Vicksburg.—Extra uterine pregnancy, L. A. Murdock, Woodville, Miss.—Crico tracheotomy, with report of two cases, J. Crisler, Flora, Miss.—The practical observance of asepsis and antisepsis by we country surgeons, J. A. Crisler, Yazoo City, Miss.—Otomycosis or ear-mold, W. A. Jones, Corinth, Miss.—Two cases of amputation of shoulder joint, H. A. Minor, Macon, Miss.—The treatment of vesical tumors, G. F. Lydstow, Chicago.

PENN. MEDICAL JOURNAL, Pittsburg. (25) November Aortic regurgitation with remarks upon Flint's murmur and paroxysmal sweating, A. Stengel, Phila.—Physiology of circulatory diseases, with remarks on treatment with digitalin, H. Beates, Phila.—A case of leucocythemia, F. J. Patterson, Scenery Hill, Pa.—Report of a case of resection of the liver for the removal of a neoplasm, with a table of seventy-six cases of resection of the liver for heptatic tumors (illustrated), W. W. Keen, Phila.—What can we promise from operative treatment of cancer of the uterus? E. E. Montgomery, Phila.—Remote results in artizan's palsy, F. S. Pearce, Phila.

OCCIDENTAL MEDICAL TIMES, San F. (20) November 15: Collateral considerations relating to appendicitis, T. W. Huntington, San F.—Preliminary note on the gastric volumeter (illustrated), C. Quinan, San F.—Typhoid and malarial fever, W. W. Kerr, San F.—Ligatures and sutures, their preparation and preference, Z. T. Malary, San F.—Remarks on the clinical picture and its relation to the post-mortem findings in typhoid fever, W. W. Cross, Visalia, Cal.—Treatment of fractures involving the elbow joint, G. H. Aiken, Fresno.—Report of a case of agraphia, with a specimen of handwriting made at the outset of the attack, C. E. Griffin, San F.

VIRGINIA MED. SEMI-MONTHLY, Richmond. (10) November 24: What shall be done with illegal practitioners in the state, B. S. Martin, Stuart, Va.—Four recent cases of gall-stones, with remarks (illustrated), H. McGuire, Richmond.—Fevers of southern Virginia, H. C. Beckett, Scottsburg, Va.—Blisters in pneumonia, J. Ewell, Ruckersville, Va.—Penetrating injuries of the eye-ball, J. P. Davidson, Richmond.—The Alexander operation in retrodeviations of the uterus, H. M. Taylor, Richmond.—Cold water, internally as well as externally, in the treatment of typhoid fever, J. N. Killough, Huffman, Ala.—Malnutrition and its treatment, W. S. Mills, N. Y. C.

December 8: Further observations on hay fever, J. Dunn, Richmond.—Gastric lavage, R. F. Williams, Richmond.—Examination of the blood in surgical diseases, H. S. MacLean, Richmond.—Blood examination as an aid to the surgeon, E. C. Levy, Richmond.—Should reputable physicians encourage the use of secret or semi-secret proprietary medicines, B. C. Keister, South Boston, Va.—Recent work on the etiology of malaria, W. S. Thayer, Baltimore.—The vagaries of fever as they occur in the mountains of Virginia, R. M. Wiley, Salem, Va.—Scarlet fever, T. N. Vincent, Washington, D. C.—The operative treatment of hypertrophied prostate, H. H. Young, Baltimore.—A case of gunshot wound of the knee-joint, L. Eliot, Washington.

CHARLOTTE MEDICAL JOURNAL, S. C. (25) December: Immunity, J. F. Peavy, Asheville.—The role of heredity in tuberculosis, Paul Paquin, Asheville.—Typhoid fever in children, T. T. Ferree, Asheboro.—The treatment of pulmonary tuberculosis by the inhalation of antiseptic nebulae, H. M. Thomas, Chicago.—What becomes of the medically treated cases of appendicitis, L. Schooler, Des Moines.—Value of prostatic examination, J. L. Boogher, St. Louis.—Vesico anastomosia, J. Frank, Chicago.—Further observations on the treatment of the abdominal viscera through the colon, F. B. Turek, Chicago.—100 reviews of leading articles in the medical journals.

CHICAGO CLINIC. (10) December: Notes on the technique of the operative treatment of urethral stricture, F. Kreissl, Chicago.—A rectal curiosity, with report of cases, J. L. Jelks, Memphis.—Practical anatomy of the ankle with reference to talipes (illustrated), W. T. Eckley, Chicago.—Gonorrhea in the male and female, W. Cuthberton, Chicago.—Regulation of the galvanic current, electrode-rheostat and electrode-commutator (illustrated), B. Pirosh, Chicago.—Chronic postnatal catarrh (illustrated), G. F. Hawley, Chicago.—Phimosis of the newborn, J. N. Bartholomew, Chicago.—Treatment of tuberculous ankylosis of the hip joint, A. C. Wiener, Chicago.—The work of the trained nurse (first paper, scarlet fever), A. H. Byrne, Chicago.—Principles relating to static machine construction, R. V. Wagner, Chicago.

AM. JOUR. OF SURG. AND GYN., St. Louis. (10) December: Operation on the cervical ganglia of the sympathetic for epilepsy, glaucoma and exophthalmic goitre, by the editor, E. Lanphear.—On the practical value of the urethroscope, F. Kreisal, Chicago.—Profuse diarrhea twelve hours following laparotomy, C. G. Levison, San Francisco.—Complete prolapse of an ovarian tumor through the anus, operation, recovery, J. H. Baughman, Neoga, Ill.—Syphilitic stricture of the rectum, J. M. Mathews, Louisville.—Report of a 94-pound ovarian cyst, W. M. Mayfield, St. Louis.—Surgery as a business, C. P. Thomas, Spokane—Report of some unusual cases, W. B. Craig, Denver.—The treatment of septic infections following pin-pricks, abrasions, and similar injuries, E. H. Ochsner, Chicago.

CHARLOTTE MED. JOURNAL. (25) November: Gastric lavage, R. F. Williams, Richmond.—Theory of the nitrates, J. N. Upshur, Rihcmond.—How to regulate the practice of medicine in Virginia, R. S. Martin, Stuart, Va.—A perfect antidote for the poison of snake and spider bites. S. T. A. Kent, Ingram, Va.—Four recent cases of gall-stone, with remarks, H. McGuire, Richmond.—Fevers of Southside Virginia, H. C. Beckett, Scottsburg, Va.—The vagaries of fevers as they occur in the mountains of Virginia, R. M. Wiley, Salem, Va.—Penetrating injuries of the eyeball, J. P. Davidson, Richmond.—Hygiene of the school room, H. McGuire, Alexandria, Va.—Some etiologic and therapeutic facts concerning eczema, E. B. Jackson, Sour Lake Springs, Va.—Report of some cases of appendicitis from a medical standpoint, R. I. Hicks.—Examination of the blood in surgical diseases, H. S. McLean, Richmond.—Abstracts of 100 leading articles of the month.

AM. JOUR. OF SURG. AND GYN., St. Louis. November: Extensive operation for cancer of the face, J. F. Binnie, Kansas City.—Treatment of dislocations of the shoulder joint; tubercular abscess of the cheek; the after effects of frost bite, W. C. Dugan, Louisville.—Some practical points in the treatment of diseases of women, E. Lanphear, St. Louis.—The most successful treatment of spina bifida, W. O. Henry, Omaha.—A case of adeno-sarcoma in a negress, A. Schachner, Louisville.—Diagnosis and treatment of uterine fibromata, M. B. Ward, Kansas City.—A new method for reduction of strangulated hernia, H. C. Owen, Baldwin, Kansas.—Vasico-vaginal and vesico-uterine fistulae and its cure, H. E. Pearse, Kansas City.—A case of large tumor of the brain, producing few symptoms save ocular changes, with remarks on the value of double optic neuritis as a sign of brain tumor, J. M. Ball, St. Louis.—Clinical notes on iodoform, hydrogen peroxide, etc.

Lord Salisbury, the English Premier, is a chemist, and from his laboratory it is said an important chemical discovery is shortly to be announced.

TO THOSE WHO WEAR FALSE HAIR.

The English consul at Canton says that eighty thousand pounds of human hair are exported from that city every year, and that it comes mainly from those who have died of contagious disease, mendicants and criminals.—The Physician and Surgeon.

Dr. R. N. Foster, of Chicago, states (Med. Brief) that the only remedy known by him to cure goiter is fucus vesiculosus, which, in a series of 27 cases under thirty years of age, all were cured. Dose for an adult is a teaspoonful in a cup of water before meals.

Salines operate in three or four hours; croton oil in one or two hours; jalap, gamboge and senna in three or four hours; rhubarb and castor oil in from four to six hours; aloes and mandrake in from ten to fourteen hours.

After an abortion the patient should be kept in bed three times as many days as the number of months of the abortion.

Be careful how you administer the preparations of opium to the aged with bronchorrhea and feeble respiratory powers.

Dr. J. L. Jelks recommends a bandage applied tightly around the body or lower portion of the ribs as a remedy for obstinate hiccough.

"I wish to say to the congregation," said the minister, "that the pulpit is not responsible for the error of the printer on the tickets for the concert in the Sunday school room. The concert is for the benefit of the arch fund, not the arch-fiend. We will now sing hymn six, 'To err is human, to forgive divine.'"

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, FEBRUARY, 1900. No. 2

Original Articles.

*REMARKS ON JOINT-DISEASES.

By Knut Hoegh, M. D.
Prof. of the Principles of Surgery and of Clinical Surgery in Hamline University,
Minneapolis.

Joint diseases form a considerable part of the conditions for which our advice is asked, and are therefore entitled to great attention from the profession; but their diagnosis is often obscure, and their management difficult. I believe that they are looked upon as rather disagreeable cases by the mass of the profession, because they demand much attention and close study. As everything that is disagreeable is instinctively shunned, the study of their pathology and treatment is somewhat neglected by the general practitioner. It must be admitted that up to a comparatively recent date our knowledge was inaccurate and our treatment often extremely crude; the older members of our profession have started out in their professional life with very confused ideas of the pathology of joint diseases, and with very defective views about their treatment, and we all know the difficulties of unlearning what we once have learned.

It was not before the seventies that Volkmann, in Germany, and Ollier, in France, established the tuberculous nature of the great majority of chronic non-traumatic joint-diseases, a fact that sufficiently proves the backwardness of this branch of pathology. And as an accurate, systematic and comprehensive conception of the nature and course of a disease is a necessary condition for proper treatment, it must be inferred, that these diseases up to a comparatively recent period were treated in a rather indifferent manner. The results were that the treatment of joint-diseases was a favorite field for all kinds of quacks, and even has remained so to this day. In our fathers' time the bonesetter was abroad; he explained most joint diseases as neglected and unreduced fractures, and enjoyed almost everywhere considerable reputation and often a lucrative practice, because his methods often gave as good results as those of the regular profession, and sometimes even better. But when we see that ignorant rubbers, osteopaths and other fakirs today encroach upon this territory that legitimately belongs to the dominion of scientific medicine, we can no more excuse ourselves with the obscurity of the subject, and say that treatment is a matter of dispute, about which the profession has come to no definite conclusions. I dare say that every case of joint-disease can be properly diagnosticated, if sufficiently studied by men who have not neglected the subject, and that there are laid down very exact and comprehensive rules for treatment. I venture to speak of some points connected with this subject because I want to draw the attention of the profession to this important class of cases, where we can do so much good, and where we can rescue many unfortunates from unscientific and unsatisfactory treatment.

I admit that the subject is a somewhat difficult one; that it is altogether too extensive to be covered in one brief paper; but I hold that some good may come of even a partial review of some of the more common forms, and especially that there are some general considerations that hold good of all forms of joint-diseases, to which I shall draw your attention.

In the first place I want to mention the importance of an early diagnosis. In my practice, at least, I find a great number of cases that have been allowed to go without proper treatment long after the appearance of signs that to the thoughtful and well-informed physician ought to have led at least to the suspicion of joint-disease. If a joint once has become the seat of disease, improper treatment, or lack of treatment, allows the disease to creep on, to extend from a small territory of bone to adjacent fibrous and synovial tissues, with final encroachment upon the cartileges and complete destruction of the joint, so that resection or amputation or even death is the final outcome. On the other hand, if the disease is recognized in its earliest stages, it is usually curable, or can at least be made stationary with a fairly good functional result.

What, then, are the symptoms and signs that ought to lead us to suspect and finally diagnosticate a disease of a joint?

One of the most common of the incipient symptoms of joint-disease is pain in the joint or in some cases in the limb or in an adjoining joint. But nothing is more common than to be consulted by a patient for "rheumatism," which has occupied only one joint, or only a part of a joint,

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*Read before meeting of the Hennepin County Medical Society, January 8, 1900.

which has never manifested itself in any other joint and which has given rise to stiffness, false positions of the limb, great pain, and finally greatly impaired function.

The word "rheumatism" has been used like the cloak of charity, to cover a multitude of sins. It would not perhaps be too much to say that with a great many practitioners the word designates every pain that can not be otherwise accounted for. The flying and indefinite pains that accompany most fevers, and that are nothing but the reflexion upon consciousness of a toxic condition of the blood that nourishes the nerves, are often designated as rheumatic; thus I have heard a venerable practitioner argue that grip was nothing else but a combination of cold with "rheumatism."

He falsely asserted that the flying pains variously referred to the bones, the muscles or joints were rheumatic because they were shifting and of an indefinite aching character. But they are, as a matter of fact, found in all fever diseases due to infection and have nothing more to do with real rheumatism than any other infective disease.

The pains in the back that accompany a beginning tuberculous spondylitis, are often called rheumatic; even the fixed pain in a knee, is designated as rheumatic, simply because it is near or in a joint, and is worse during certain conditions of the atmosphere. But there are certain well-defined conditions to which we ought to restrict the use of this term, or otherwise it will cease to have any special meaning whatever. This leads us to consider what rheumatism really is. In the first place we have rheumatic fever, which legitimately bears its name, and is an acute infective fever disease, that occupies one joint after another, and not only joints but also other organs that are invested by a serous membrane, as the endocardium, pericardium, pleura, peritoneum, and pia mater.

The migratory character of this disease, its acuteness, its preference for certain anatomical structures, its tendency to self-limitation, put it in a class with the other infective diseases, but distinguish it from the chronic diseases of the joint. If we call this disease rheumatism, or rheumatic fever, we ought not to call other diseases of an entirely different nature by the same name. This has more than a merely academic significance, for if we call several diseases by the same name we are induced to look upon them as of similar nature, and treat them in a similar manner. There is another joint-disease that has a somewhat similar name, viz.: chronic rheumatic arthritis. It has no other relation to inflammatory rheumatism than that it occasionally seems to develop in joints that have been affected by it; otherwise the diseases are without connection. Then there are certain inflammations of the muscles, that have been called muscular "rheumatism." An infection following gonorrhœa has also received the misleading name of gonorrhœal "rheumatism." Let us remember these names are misleading because denoting a relation to the disease that legitimately is so called. It appears then that a fixed pain in, or near a certain joint has no right to the name of rheumatic, and consequently that there is no indication for treating it along the same lines.

Again, you will hear that the patient has been told that he suffers from neuralgia, but we know that this disease always follows the course of a certain nerve, while the pain that is produced by joint disease does not, except as an accidental complication. In investigating the pain complained of, we usually find that it is more acute, or sometimes more confined to a limited spot; we learn that it has certain relations to the functions of the joint. Usually it is worse after the joint has been used, often it disappears when the joint has been put to rest, commonly aching for a while after the cessation of functional activity. In many cases the joint is free from pain after rest, but somewhat stiff; after moving the joint a little it becomes more limber, but after a while it begins to ache again. If the disease has started in the epiphyseal end of the bone the pains are apt to be worse in the early hours of the night. If we farther try to elicit the seat of the pain by joint pressure, we usually find tender places that indicate the more especial seat of the disease; sometimes this local tenderness may give a more or less accurate idea of the origin of the disease.

Upon inspecting a diseased joint we first take cognizance of its general outline, and if we know what to look for much may be learned by simple visual examination. We will often see that the bony prominences around a joint are indistinct; that the normal depressions from the short fibers of tendons, aponeuroses, and fasciae, are concealed by a general fullness or puffiness; in short that the joint has lost its delicately chiseled outline, and has become a spindled-shaped mass, devoid of its individual protuberances and concavities. Often we notice a change of color, sometimes a dusky redness telling of venous and capillary distension from inflammation, sometimes only enlarged veins that tell of increased vascular supply as from a new growth. Looking farther we notice the position and outline of the limb, and often find that it is held in a constrained, unnatural position, indicating muscular spasms; often we see atrophy of the muscles, and if this is not present we observe this fact as bearing upon diagnosis. We ask the patient to move the joint and observe whether movements are possible; we take hold of the limb and try to produce passive movements and note their extent, their painfulness; then we push the joint ends together in various directions and observe whether this can be done without eliciting pain. Measurement of the length and circumference are made and compared with those of the sound side. Then we proceed to a systematic oral examination, paying particular attention to a preceding traumatism, the patient's constitutional history and complicating diseases. Finally, a careful examination of the whole body is made, including the internal viscera, lungs, heart, liver, spleen and kidneys.

If we proceed in this systematic manner we will necessarily come to a pretty certain diagnosis, not alone as to whether there actually is a joint disease, but also as to its special nature.

In no case, and especially in the milder and less obtrusive ones, should such an examination be neglected, for it is just in the easier and less conspicuous and obvious cases that our treatment shows its best results.

Of all joint diseases the tuberculous ones are the most common. It is an error to believe that patients exhibiting the so-called scrofulous constitutions are the only subjects of this disease. While we admit that a certain vulnerability of the tissues makes the scrofulous individual particularly susceptible to the ravages of tuberculosis of the joints, as well as of other organs, we must not forget that those diseases are often found in individuals with a good personal and family history. L. A. Sayre, who had a great experience, thought that healthy, robust children, full of animal spirits were more apt to become subject to joint diseases, because they exposed themselves more frequently to traumatisms. I do not believe that clinicians, as a rule, corroborate Sayre's statement; in my experience I have certainly found more cases of tuberculous joint disease in scrofulous persons than in robust individuals, but I have found them in both classes. And the fact that men of Sayre's immence experience and great powers of observation could entertain such ideas is a sufficient proof of the frequency of tuberculous joint-disease in robust individuals without hereditary disposition.

Tuberculosis of the joints appears under several distinct forms, of which the most common is the disease commonly designated as white swelling, tumor albus, fungous arithritis. It is characterized by considerable swelling of the joint, made more conspicuous by the marked atrophy of the muscles above and below it. The swelling is produced by the change that takes place in the synovial membrane that becomes thickened by the formation of an abundant semi-gelatinous granulation-tissue in which the baccilli are imbedded; the tissues around the joint undergo the same change; the fungous infiltration appears in the ligaments, the capsule, the aponeurosis, and the fasciæ; to the tactile sense the joint gives an impression as if it were imbedded in more or less compressed cotton wadding. Quite characteristic of this form is the tendency of some of the joints at least to assume a peculiar contracted and sub-luxated position. This form is very apt, if neglected, to become the seat of a deuteropathic pus infection, whereby the case becomes much graver. Another form of tuberculosis of the joints is that which has been designated by Volkmann as dry caries. I have observed this form in but few cases, and mostly in the shoulder joint; at present a case of knee joint tuberculosis of this form is under my treatment. The pathology of this form is that of a tuberculous invasion of an epiphysis; there are numerous superficial tuberculous foci, that show a strong tendency to scar formation, as connective tissue fibers grow into the tuberculous masses and by their condensation and shrinking make the tuberculous granulations become atrophied. A spontaneous cure is often thus the result, unforunately, however, frequently accompanied by the production of synostosis with the neighboring bone; ankylosis is thus the result, and this is so much the worse as these cases have a very marked tendency to produce contractions of the muscles, and in young individuals to check the growth of the bone so that the final result of this form, that is not very dangerous to life, is a stiff joint in a crooked position, and a shortened limb.

While this form of joint tuberculosis always originates in the bone, the next form, the hydropic one, starts from the synovial membrane. There is an effusion of serum or lymph in the joint, which otherwise appears quite healthy. In the fluid are often found flakes of fibrin, and the so-called riceformed bodies. Volkmann states that the presence of these ricegrain-likebodies always denotes the tuberculous nature of the affection. The diagnosis of this form of tuberculosis may often be difficult, for owing to its confinement to the synovial membrane it resembles an ordinary dropsy of the joint. Only its recurrence after repeated evacuations and washings of the joint, and the demonstration of the above mentioned rice-like bodies prove the tubercular character of the affection. It happens often enough that this form develops into the first mentioned fungous form, when the tuberculous process spreads to the para-articular tissues and when the epiphyses become involved with destruction of the cartileges and breaking up of the joint. As the fourth and most serious form we denote the cold abscess or tuberculous pus collection in the joint, a form that is only found in broken down constitutions, often in elderly persons, and offering a poor prognosis, partly because of the poor vitality of the patient, partly because of the incident dangers from prolonged suppurations, viz.: infective surgical disesases, as pyemia, phlegmon, etc., and parenchymatous degeneration of viscera, for instance, liver, kidneys, spleen, etc.

Some of the joints exhibit individual characteristics that demand especial mention. To begin with the spinal column, I must say that I believe that a great many diseases of it go unrecognized. A few years ago a student consulted me for a pain in the lower lumbar region; the pain was worse when he worked, or had been tired; it was better in the morning, but he felt a certain stiffness that wore off as he moved about; it was worse towards evening. There was nothing to be seen by careful inspection and there was no apparent stiffness when he bent the body. By pressing on the body of the fourth lumbar vertebra, I discovered a somewhat tender spot. This and the persistence of the pain were all that I had upon which to base a diagnosis. I supposed a localized tuberculosis and sent the patient to bed for a prolonged period, asking him to come and see me when the time for remaining in bed was out. But he did not return as he felt perfectly well after his protracted rest, and he remained so for a couple of years. Then one day he lifted a heavy burden and the pain came back; he applied domestic remedies and got along in a measure. Some time afterwards a swelling in the lumbar region made its apeparance, and the physician to whom he applied, detecting fluctuation, assumed that he had a phlegmonous abscess and opened it. It proved, however, an iliac tuberculous abcess to which the patient finally succumbed.

Recently I saw a man of about 45 who complained of backache. In the mid-dorsal region there was a cavity that at first, owing to its extent and slight prominence, impressed me as being the common workingman's kyphosis, which is seen so often in people who have performed hard manual labor. But it struck me that it was rather low down; he stated that he had this bent back since his youth, that people had called his attention to his crooked shape when he was about fifteen years old, but that he had had no disease of his back or any other region of his body, so far as he could remember. Lately he had become subject to pains in his back, and particularly in the night; he could not rest in any position, and was particularly bad after working. Lately he had noticed that when he had been bending over, he could not easily raise himself without putting his hands on something for support. Upon measuring the distance between his finger tips when his arms were stretched out, I found the distance out of proportion to his body length, by measuring his femur I also found the same disproportion, as he ought to have been nearly six feet, according to the length of his femur, while he was really only five feet six inches. It is evident that he had had a disease of the spinal column that had checked his growth; the most reasonable supposition in my opinion being that he was subject to a chronic tuberculosis of some of the dorsal vertebræ, that had become recrudescent after a long period of apparent healing. Within the same fortnight I saw two similar cases, where the deformity was so slight that I at first did not observe it. Repeated examinations, however, established it in both cases, and the character of the pain, its relations to movements, a very slight stiffness. and finally its persistence fixed the diagnosis of a limited localized tuberculosis. All those three patients had been treated, all of them with no benefit; they all derived benefit when the weight and strain was taken from their back. The symptoms in all these cases were so slight that an observer who was not particularly on the look-out for this ailment, might easily overlook them.

(Concluded in next issue.)

PUERPERAL MANIA.

Notes from a lecture before the Senior Medical Class of Hamline University, Jan. 29th, 1900, by Dr. C. K. Bartlett, Professor of Psychological Medicine.

It is usual to describe mental disturbance in the puerperal state under the conditions of pregnancy, childbirth and lactation, each of which has a few characteristic symptoms. It is very important that you as general practitioners of medicine should be familiar with the several forms of this disease, as you are sure to meet with them at times when attending patients for other diseases, and it is hardly necessary to say that it is one of the most distressing to witness, although one of the most hopeful to treat as to the result. With competent and sufficient help, and comfortable surroundings, these cases can be successfully managed without removel from home; but without suitable nurses, and means to secure comfort, and especially if there are delusional prejudices against family relatives, the hospital is the proper place for safety and treatment.

In regard to the mental symptoms, or disturbance during pregnancy, I will say that while the great majority in this condition never become unbalanced mentally, still a considerable number, on account of hereditary disposition, or from other causes, will exhibit more or less morbid appetities, propensities and impulses; these may exist, and remains harmless, the patient never losing self-control so as to require restraint; but they are symptoms that will bear watching, and regulating so as to prevent, if possible, their continuance or any excess of this abnormal state. One of the most frequent symptoms is depression; a foreboding of evil and danger, which may be natural to some extent, and especially so in the cases of first pregnancies, but it is liable to become exaggerated; and this is especially true in cases of illegitimate condition, showing that a moral cause enters into the mental disturbance. It is not often that the insanity of pregnancy is such an acute type as to require restraint in a hospital; but it is so occcasionally, and the event can be avoided sometimes by placing the patient under the care of friends for a season, when she is not too violent, as Dr. Clouston says: "It would be a terrible fate, as things go in this world, to be born in a lunatic asylum, in addition to being the child of an insane mother." In a typical case of mental disturbance during pregnancy, not sufficiently pronounced to require restraint, there is an apathy with a loss of interest in work or usual avocations, with an indifference of feeling towards husband or children and asosciates, and with an apparent loss of courage for the usual duties of life; this feeling may occur at any period of the pregnancy, and generally subsides at the time of delivery if not sooner. Dr. Clouston says: "If this result does not follow, then the disease becomes aggravated into a more acute puerperal psychosis." And he adds: "There is another distinct type of case where during the first pregnancy insanity comes on, becomes acute and ends in dementia soon; this is no doubt one of nature's ways of ending a bad stock; just as I look on the insanity of adolescence to be, and on sterility to be in some cases, and on sexual antipathy to be, and on the absence of the social instincts; there are psychological bachelors and old maids, born so, whom no social cultivation or opportunity can make otherwise, and these will be found to occur usually in families with a heredity to insanity."

TREATMENT.

The treatment of insanity of pregnancy will not differ essentially from that of insanity occurring under other circumstances, except that more care should be exercised in giving drugs that might have an injurious effect upon the child in utero. An abundance of fresh air, moderate exercise, watching if there are any indications of a suicidal disposition, cheerful society, change of scenery, suitable food, are all that will be necessary to preserve the general health; if there are complications affecting the secretions, or the bodily organs, these must be met as they arise with such medical or surgical treatment as the case may demand.

Mental disturbance following childbirth usually appears within the first two weeks, and it is not a very rare disease as about five per cent of all cases of insanity in women admitted to our hospitals for insane are from that cause. Although hopeful as to a cure it is something to be dreaded by physicians and the friends; but it is some consolation to know that it is a form of mental trouble not liable to a return after a recovery, unless the same causes are repeated, and not always even under those circumstances. About one-half of those attacked suffer during the first week, and it may come on suddenly, and during the excitement it is one of the most violent of all forms of insanity, attended by the extreme dislikes for friends, the nurses and physician, and accompanied by dangerous propensities to suicide and homicide. It would seem that no greater grief could come to a family than such a calamity, coming as it most frequently does to the mother at the time of her first-born child, when the very strongest affection in life is effaced and converted by disease into antipathy with dangerous impulses. But the disease does not always develope suddenly; it may begin in a more quiet way; the patient may appear slightly more talkative than usual, and will make remarks that seem a little odd to the friends, and which they may interpret as jokes; but the excitement continues, the remarks become more wild, and at length irrelevant, and frequently profane and obscene and boisterous; there will be difficulty in restraining the patient within proper bounds, or in bed; there will be illusions and delusions; the patient will mistake friends and call strangers by the names of intimate relatives; the temperature will rise, but the pulse may remain about normal and weak; at the same time the muscular strength may astonish those who endeavor to control her. The dislikes of the patient will be freely and openly expressed towards those around her, and especially if it becomes necessary to oppose her in any way; she may be witty, joyous, scold and become incoherent in the space of an hour or two after the attack. She will be suspicious, express foolish fancies, and fear poison in food, and refuse all nourishment; her lips and tongue will become dry, her features shrunken, and her eyes unnaturally brilliant. The patient will not take much notice of her child, will be sleepless and restless sometimes at first; but this apparent stupor will soon develop into the more demonstrative condition.

The puerperal patient having passed with impunity through the dangers of pregnancy and childbirth has still another trial of her physical and mental endurance in the period of lactation. Nursing the child under favorable circumstances is often a great strain upon the health of the mother, and especially if she is obliged to work hard and fare poorly on account of poverty, or other unfortunate circumstances; and in addition to these she may have an hereditary predisposition to mental disease; but this is the most natural nourishment for the child, and most mothers prefer to assume the duty, finding in it pleasure as well as convenience. The premonitory symptoms of breaking down from lactation are, loss of flesh, paleness of the countenance, headache, nervous irritation, lassitude, and a general anæmic condition. These cases are all very curable, if uncomplicated with other diseases, and the treatment is simple and very plainly indicateed, viz.: wean the child and nourish the mother by rest and substantial diet.

A TYPICAL CASE OF PEURPERAL MANIA FOLLOWING CHILDBIRTH.

The wife of a clergyman, a very refined and intelligent young woman, about twenty-five years of age, came under my care 35 years ago; I met her first in the train, accidentally, on which she was being conveyed to the hospital for insane where I was then the assistant physician. She was very noisy in the car, and neither her husband nor the nurse had any control of her actions; the husband called me to his assistance, and as frequently happens, a strange face had some quieting effect upon her, and I had no further trouble or disturbance with her while on the road. For several weeks she was one of the most violent of all our patients, but not in a vicious way; she showed some very remarkable feats of muscular strength, although very small and apparently much exhausted; she would cling to the wire screens of the windows with her fingers through the meshes like a bird hanging by its claws; but she recovered in less than six months, and remained perfectly well for years, finally dying by an accident.

The great predisposing cause is constitutional, the inheritance of a nervous organization from defective and mentally unsound ancestors, while the chief exciting cause, of course, is the puerperal state, aided more or less by many others that contribute to the unhappy result. Dr. Blandford notes that women who have children late in life are especially liable to this disorder, and Dr. Bevan Lewis gives about one-third per cent. as occurring in primiparæ cases, thus showing a much larger proportion among those who have borne children previously to the outbreak. This has not been my experience with this form of disease, as my recollection is that a large majority of cases that I have seen were primiparæ, and others were secondary attacks following repeated and similar causes. Of the exciting causes there may be mentioned, ill-health during pregnancy, domestic and pecuniary troubles, rapidly recurring labors, inflammations of the breasts, unfavorable surroundings, and anything of a depressing nature that leads to anxiety, and tends to reduce the general health and vitality. Want of proper nursing, and mental shocks are prolific exciting causes. Among other disturbances Dr. Blandford says, "Sleep is of the utmost importance and some nurses, who have chattering tongues, may give the patient no rest day nor night, and when not talking, they are poking the fire or preparing food, or wake the mother to nurse the child; friends, too, are not kept away, but are allowed to visit and perhaps bring disquieting news or excite by religious exhortations, and the like." All these are distracting elements that, so far as possible, should be avoided. Nurses do not have many open fires to poke in this country, but they are inclined to admit too many visitors and too soon after confinement who are anxious to see the baby, and ascertain the color of its eyes at the earliest opportunity.

Puerperal mania, upon whatever causes it may depend, is mostly confined to civilized nations. It is sometimes stated that insanity is not known among savage races; but this, I think, is not strictly correct even among those who have not suffered from contact with civilized and Christian neighbors (so-called), as the late Dr. Williamson, who was for many years a missionary among the Indians of this country, told me that cases did occur in the tribes he knew.

TREATMENT.

The great excitement and apparent muscular strength of patients suffering from this disease led physicians formerly to believe their condition was sthenic, and they resorted to sedatives and reducing measures frequently with ill success; if recovery occurred it was on account of a vigorous constitution rather than from the skill of the doctor. The late Dr. Pliny Earle had a friend attacked with this form of disease, and she was treated by bleeding, and she died; this happened about forty-five years ago, and it caused the doctor to investigate the disease very thoroughly with the result that he prepared a paper on the subject of bleeding which was published, condemning the practice as injudicious and contrary to the indications in this class of cases. Since that time the treatment has changed entirely, and the disease is now recognized as one of exhaustion, generally, requiring supporting measures in all its stages. Some cases do not recover, even under the most favorable circumstances, and we must not expect that, because there may be other elements of disease in combination with the mental disturbances contributing to the failure. But just remember that when you meet with one of these cases it is one of vital exhaustion, as a rule, however strong the patient may appear, and that she needs rest, nourishment, and stimulants often, and not in small doses either; the case mentioned above took, at least, one-half pint of whisky every day for two or three weeks, and at first it was necessary to feed by force.

When called to a case of this kind, the first question to be settled may be, "Shall the patient be treated at home or sent to a hospital?" Much will depend upon the pecuniary circumstances of the family as well as the condition of the patient, and the surroundings. If there are ample means, the home is quiet, the patient inclined to take sufficient nourishment voluntarily, and a reasonable control can be maintained without harsh restraint, then home treatment may be successful, or it may be given a fair trial; but if the family is poor, the home small and in a noisy neighborhood, the patient violent, refuses food, and is with difficulty controlled, the sooner she is removed to a hospital the better for all concerned. If under any circumstances the patient exhibits a strong dislike for her husband, or other members of the family, a removal from all local causes or excitement will be wise. New scenes and new faces will usually have a soothing influence in their effect upon the patient, and she will yield to strangers much more readily than to her friends or members of her own family to whom she has been accustomed to dictate and to control. But whether the patient is cared for at home or in a hospital the same line of treatment should be followed. Nourishing food must be given by force if not taken in sufficient quantity voluntarily, and for this purpose milk punch is not only the most convenient, but it will be found in a majority of cases the most suitable for the condition; occasionally a person may be met with who will object to milk, and then something else will have to be used, such as beef tea, mutton broth, or chicken soup; and remember that whatever is used, it will be necessary to change frequently, as sick people become tired of sameness in the fare sooner than well persons. Always give particular attention to the excretory functions, and see that the bowels are moved at proper intervals, and sufficient sleep obtained. For the bowels enemas and mild cathartics will be better than anything liable to act violently or cause griping pains. To secure sleep, if anything is necessary, chloral, paraldehyde, bromidia, and when the case assumes the form of melancholia, opium in some preparation, may be allowed; but in many cases while the excitement is high, opium does not prove effectual, but rather adds to the disturbance. Dr. Clouston says, "I give stimulants in larger quantities with the food than in any other kind of insanity, and I have seen the greatest and most evident good results from large doses of quinine as an antipyretic."

The prognosis in uncomplicated puerperal mania is favorable. In England and Scotland the death rate is estimated at 8 per cent. I think that is too high for puerperal insanity alone, and I am inclined to think some of their deaths were caused by puerpural fever the result of septicemia with delirium, which would be difficult sometimes to differentiate from insanity. Dr. Blandford says, "If we had the statistics of all the women who are treated and make good recoveries at home, the percentage would probably be increased, though it is feared that the percentage of deaths would rise also from the inadequate care which many receive at home, whose friends through prejudice refuse to send to an asylum."

MORBID ANATOMY.

It is impossible, of course, to know what the condition of the brain may have been in cases of puerperal mania that recover, and uncomplicated cases seldom die, as during thirty-fours years of hospital life I have never seen an autopsy of one. We can only conjecture what may be the internal condition from the symptoms manifested, and judging from these I infer that there is not an inflammatory state of the membranes at least, as stimulants and nourishing food prove the best treatment, and lead me to believe the condition is anæmic.

A PHYSICIAN OF ANCIENT ARMENIA.

M. V. Torkomain read before the French Academy of Medicine an article upon an Armenian physician of the twelfth century, named Mekhitar. This physician was very celebrated among his countrymen, but until the present has been unknown to the medical world in general. Mekhitar composed a treatise on fevers, written in the ancient Armenian language, of which it is said that but one copy exists, which is now in the National Library, Paris. The treatise is fairly complete, and contains many original ideas, as well as the views of physicians who preceded him. —Medical Review.

COMPLICATION AND SEQUELÆ ATTENDING OR FOLLOWING REDUCIBLE OR IRREDUCIBLE DISLOCATION OF THE SHOULDER-HUMERO-SCAPULAR JOINT.

With a Brief Review of the Various Modern Operative Measures now Employed for their Treatment.

By Thomas H. Manley, M.D., New York City,
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and Professor of Surgery at the
New York School of Clinical Medicine.

The subject of the dislocation of bones, from their articulations, constitutes one of the most interesting and important chapters in the annals of traumatic surgery; though of late years, since the enormous augmentation of viscual operations, it is a topic which has received but scant attention, nor can it be said, that the management of shoulder luxations has shared in the advances, so notable in other directions, through the discovery of anæsthetics or antiseptics.

Holmes notes our indefinite knowledge of the pathology of these dislocations, and the diverse manner in which it is viewed by the French and the English schools.

Progressive science and an ever widening art have revolutionized the theropy of osseo-arthritic lesions, and have led to the restoration of function, and the preservation of much, which in former times had to be sacrificed; and yet, not until very recently have these made any special impression on the complications attending luxations at the shoulder.

An indefinite and misleading nomenclature has led to much confusion; and, an abscence of a practical knowledge of the shoulder's mechanism has led to error or faulty conclusions in diagnosis.

Let us remember, then, that instead of one joint the shoulder has three; and, when we speak of lesions or displacements of the head, that there are two heads of the humerus, as there are also two necks.

The importance of a careful investigation into the various phases of shoulder luxations becomes evident when we bear in mind that these are more common than all the other luxations of the body combined; that there are more types and varieties of displacement seen here than elsewhere, as are also, oftener encountered fractures and other severe complications. Dislocations of the shoulder, as compared with fractures of the larger bone shafts, it is said occur in a proportion of 1 to 30. Enalgargne placed it 1 to 15. Into the Harlem Hospital were admitted in the

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*Abstract of essay presented at the annual meeting of the American Medical Association at Columbus, Ohio, June 7, 1899.

decade from 1888 to 1898, 2,607 fractures with 79 shoulder dislocations,—1 to 33.

Erichsen and other authors believed that a complete luxation of the shoulder was always followed by an impairment in the action of the shoulder, through its serious effects on the joint structures.

In children the growth of the arm on injured side has been arrested or retarded, the sound side having a longer arm.

Irreducibility of shoulder luxation is not very uncommon; but the remarkable freaks noted here; as, sometimes, an arm which cannot be reduced immediately after injury, may, the following day or even later, readily return on slight manipulation, or spontaneously return during the movement of a patient in bed.

The period when reduction should be undertaken is an important one.

That we should insist on immediate reduction in all cases is, no doubt, a mistake, and may result in serious consequences to the patient.

Shock has been sustained, there may have been free hemorrhaged effusion into the capsule or periarticular tissues, with marked muscular spasm.

The patient has sustained greater violence. Why expose him to the risks of another fresh assault until the system has well revived from the first? Boyer reminds us, that we need have no fear of trouble from the pathologic changes eventuating because the parts are in a state of "stupor" for some time after displacement; and, moreover, Lund, of Boston, says that "a luxation of less than two weeks standing is as easily reduced as a fresh one."

The morbid anatomy of dislocation at the shoulders is certainly not well understood. There is no case on record where a dissection has been made immediately after a fresh shoulder luxation not complicated with grave bodily injury.

The "button-holing" of the capsule, the slipping of rupture of the long-head of the biceps, diastasis of the glenoid base, or the apophyses as factors leading to resistance in reduction, are generally unsupported surmises. Of one thing only are we positive in every description of dislocation, and that is that the deltoid muscle has suffered from severe laceration or overtension.

Percival Pott noted the role the muscles play here, in cases resisting reduction, and observed, that the connecting ligaments afford only moderate retentive action on the joint, but its stability depends quite wholly on the tendons and muscles, which require our first attention.

In painful, useless arms,resulting from shoulder dislocation—those which can be reduced but not retained—the most melancholy feature is the quite total disappearance of the deltoid muscle.

The most serious complications witnessed in dislocations, are, with few exceptions, produced by violence in reduction; and it does not appear that we can by any means at our command always avert them. So eminent a surgeon as Lord Lister confesses to having mortally ruptured the axillary artery in efforts at reduction. Kocher, in attempting the reduction of 25 dislocations under two months duration, fractured three arms. Desault tore open the axilary vein. Le Bret tore the brachial-plexus out by the roots in the spinal cord; moreover in all these cases, reduction failed.

Körte has collected 17 cases of ruptures of the axillary-vessel after vainless efforts at reduction; and Stimpson adds 44 more to his list from the same cause; of which 31 were fatal.

My experiments on the cadaver clearly showed, that the internal rotation muscles permit the articular head to leave the joint entirely without any undue tension on them; nevertheless, in violent efforts at reduction, they can scarcely escape being completely torn from their attachments.

The heel of a strong man in the axilla, can work incalculable mischief. The so-called Kocher method, rotation and leverage, if only forced far enough, will reduce the arm or fracture it, every time. In my first essay of it I produced a spiral fracture of the humerus, above the middle third.

The role of the constitutional neuroses should not be overlooked in these luxations, for there is no class of cases which will oftener try the skill and judgment of practitioner than these. These are notably frequent in the female, though we will find cases of painful, sensitive shoulder, not infrequent in males, after reduction. Pitres notes the condition in female individuals, in many of whom this trauma will provoke hysterical manifestations.

In all these cases, the possible coëxistence of the rheumatic or tubercular diathesis of syphilis or hysteria should not be overlooked.

Apropos, the responsibility we incur in complicated dislocations, Dr. Strong, of Chicago, pertinently says: "From a medico-legal standpoint, the general practitioner or surgeon who dabbles with injuries which may be followed by dislocation or fracture, takes upon himself an enormous responsibility; and hence, no man should practice surgery without a constant fear of the law before him. A superficial or cursory examination with a guess should never be indulged in here, if the physician values his reputation or his pocketbook. Patients as a rule know nothing at all concerning the gravity of joint injury, either a sprain, a dislocation or a fracture into it."

DISLOCATION COMPLICATED WITH TANGIBLE FRACTURE.

Fracture of a palpable character is sometimes met with in dislocations at the shoulder, which involve the outer head of the humerus. These may be through the anatomical, or surgical neck. When the former exist they are difficult of detection or may be entirely overlooked.

One such case, I have seen, in which the outer head was displaced forward under the clavicle.

In vain, all efforts at reduction failed, when an arthrotomy was made, it was found that the articular head was in position under the acromian process, the cleavage being through the anatomical neck; and hence, the case was one of fracture and not dislocation, though mistaken for the latter by the operator, an experienced surgeon.

Most of these fractures are through the surgical neck.

Professor Charles McBurney has collected 117. There is quite invariably an accident in reduction; although Mr. Bolby and others have recorded instances, in which they have been found to co-exist with the dislocation.

When a fracture of the humerus complicated a shoulder dislocation, in former times, it was customary to be content with adjustment of the fracture; and, in some instances, later, after union attempt reduction. But of late, the practice, in some cases, has been, if reduction failed by manipulation, to cut down on the proximal fragment, seize it with a hook or forceps, and in this manner endeavor to replace it. Whether this should be a routine plan of treatment in this class of cases is not yet decided, as there is a wide difference of opinion among surgeons on this point. The procedure is evidently not without serious dangers, as we gather from Dr. Wyeth's interesting case. In this instance manipulation of the under fragment failed to effect replacement when an arthrotomy was performed, and the articular head resected, the patient sinking in six hours.

FRACTURES CO-EXISTING WITH SHOULDER LUXATIONS, IMPOSSIBLE OF DEMONSTRATION.—THE TANGIBLE.

There can be little doubt but there are various fractures coincident with dislocation which escape detection, and which sometimes constitute a serious barrier to reduction.

These are most frequently of the incomplete variety, as those through glenoid base, a splitting of the articular head, an incomplete fracture, through the anatomical neck, a fracture through the acromian process of the coracoid.

Irreducible dislocation is one of the most formidable complications we have to contend with in shoulder traumatisms. Of late years it has been regarded as proper, in some of these cases, to utilize the aids of aggressive surgery, and force reduction by division of the tissues to arthrotomize or resist the articular head.

It would seem that sufficient time has now elapsed for us to formulate some definite line of action, when we contemplate a luxation or arthrotomy; and, to decide whether or not the average results following its performance are better than when the displaced bone is left to itself.

It is a well known fact that there are several who have suffered irreducible dislocation, yet possess practically the full functional use of the arm.

Stewart, of Sydney, Australia, records the case of a person on whom it was found, post mortem, that both of his shoulders were dislocated. The subject had been a dragman, performing heavy labor.

A year ago the brother of a physician came to me for advice about an old shoulder trouble. Four years before he fell from a ladder about twenty feet. Immediately he had pain and stiffness at the shoulder, but the next day he returned to his work at roofing. A week later he consulted a physician, who prescribed a liniment. After a year, the shoulder remaining stiff, he consulted another physician, who discovered the luxation. Nothing was done in the way of attempting reduction. When he came to me he had pseudo-anchylosis, but good shoulder action through the scapular. I advised against any radical measures.

There are, however, quite a few in which the luxated limb remains painful, the articular-head rests on the brachial-plexus, and the patient presses for reduction of the bone.

Surgical literature would lead us to believe that whatever theoretical gain we may anticipate from surgical intervention, this procedure is yet subjudice. To my personal knowledge a considerable number of arthrotomies for luxation at the shoulder have been performed which have not been published.

Up to 1891 Thorburn could find but 13 cases of excision of the humeral-head; but, up to 1897, Louchon collected 154 arthrotomies for irreducible shoulder luxation.

It is somewhat remarkable that none of our late English works on dislocations give this subject a systematic consideration. Many surgeons were exceedingly sanguine when these arthrotomies were first undertaken that a new epoch in the surgery of the shoulder had opened; and hence, McLaren writes, "the ease and readiness with which a joint can be opened, the obstacles detected and removed, and the happy results in successful cases encourage of performance of the joint operation, when certain attempts by traction and manipulation fail to effect reduction." Senn, of Chicago, also speaks in an assuring tone, and declares that "the success which has attended the open method in the reduction of irreducible dislocation has added a new impetus to the department of surgery."

But published statistics would seem to cast some doubt on the success of these cases and point to the great gravity of the operation.

Delbet collected 62 cases operated on for irreducible shoulder luxation with 12 deaths.

It should, however, be remembered that the early evolution of every operation is attended with a large mortality, and moreover, in many, arthrotomy is often performed before the patient has recovered from the shock left, after violent or protracted force.

From what can be gathered through the literature on this subject, it is apparent, that while arthrotomy with restoration of the head in position gives the best functional results, it is much more difficult of performance and has a larger mortality than excision of the articular-head.

Chipault agrees with Velaton, that it should be the operation of choice, and, if inexpedient or impossible, then we should decapitate.

Hennequin would not favor the operation on children.

Delogeniere is a strong advocate of arthrotomy, rather than great violence, in resisting cases.

"Bloody reduction without resection of the head," says Knapp, is not without serious results." He collected 12 cases of arthrotomy with 3 deaths; while in 20 resections there were but 4 deaths.

After a summary of the opinions and practice of different surgeons it would appear that in all cases it is better to first attempt operative reduction by a free incision and release of the constricting bands. Then, should an extensive rent in the capsule be found, or a fraction and reduction yet resist traction, we should resort to excision of the articular-head, as a consecutive course.

The technique in operative reduction is comparatively simple, but unfortunately, in every instance to freely expose the glenoid-cavity and liberate the locked, impacted head a large incision must be made, and the integrity of the deltoid muscles seriously impaired, if not quite entirely destroyed.

The long vertical incision carried down between the clavicular and acromial heads of the deltoid, gives us the greatest facility for exploration with the least extent of mutilation, but when the dislocation is subcoracoid and the head has been projected through a rent in the capsule, a cross cut must be made through the deltoid and the deep rotaters must be divided before the articular-head can be brought up under the acromian vault.

As the areas here divided, are highly vascular and effective, prophylactic hæmostasis is impossible, the loss of blood is usually very large, constituting the most formidable danger in opening the joints.

In primary arthrotomy, as the tissues have been subjected to extensive contusion, overtension and laceration, they are highly prone to take on inflammatory and suppurative changes after division.

When this occurs the danger of widespread infiltration are great, and should recovery occur, extensive adhesions will so limit the range of shoulder action that it may not be equal to that following, had the displaced head been left undisturbed.

GRAVITATION AND HEAT.

"Under the operation of gravitation a stone falls to the ground and is warmed by the shock; under its operation meteors plunge into our atmosphere and rise to incandescense. Showers of such meteors doubtless fall incessantly upon the sun. Acted on by this force, the earth, were it stopped in its orbit tomorrow, would rush toward and finally combine with the sun. Heat would also be developed by this collision. Meyer first and Holmholtz and Thomson afterwards, have calculated its amount. It would equal that produced by the combustion of more than 5,000 worlds of solid coal, all this heat being generated at the instant of collision. In the attraction of gravity, therefore, acting upon non-luminous matter, we have a source of heat more powerful than could be derived from any terrestial combustion. And were the matter of the universe thrown in cold detached fragments into space, and there abandoned to the mutual gravitation of its own parts, the collision of the fragments would in the end produce the fires of the stars. The action of gravity upon matter, originally cold, may, in fact, be the origin of all light and heat, and also the proximate source of such other powers as are generated by light and heat."—Tyndall.

A NEW SERIES OF DRUGS.

The most valuable antiseptic agents we have are salts of mercury, silver and copper. The modus operandi of antiseptic drugs is unknown. Probably they act by producing an unfavorable soil for the microbes. The leucocytes are the exclusive agents concerned in the absorption and transportation of iron, silver, and mercury.

Pure yeast nuclein the author calls nucleol. It is freely soluble in water and if to such a solution we add an oxide of one of the metals mentioned, it will gradually dissolve. By now adding alcohol there is thrown down a substance which is a chemical compound of the metal and nucleol. These new salts possess all of the therapeutic properties of their respective inorganic bases without any of their disadvantages and are known respectively as mercurol, nargol, cuprol, ferrinol.

The murcury salt contains 10 per cent of the metal and is best used in ½ to 1 per cent solution in normal salt solution.

The silver salt contains 10 per cent of the metal, while the copper and iron salts each contain 6 per cent.—R. Schwickerath, N. Y. Med. Jour.

NASAL INHALATION OF OXYGEN.

Beck describes a method of giving oxygen by nasal inhalation, which he claims has great advantages over the ordinary method of inhaling it by the mouth. A patient who underwent this treatment also remarked that inhalation in the recumbent position was much easier, and its invigorating effects much more quickly obtained.

THE DIAGNOSIS OF SMALL-POX.*

By C. O. Probst, M. D., Secretary of the Ohio State Board of Health.

(Columbus Medical Journal.)

The following points in the diagnosis of small-pox are offered with the hope that they may be of some service to health officers and physicians who have not had an opportunity for studying the disease, especially in the form now prevailing in Ohio, and many parts of the United States and Canada. During the past twenty years or more but few cases of small-pox have occurred in Ohio. It is probably true that a large number of physicians of many years' practice have never seen a case of small-pox. Ordinarily the disease, and especially typical cases of it, is easily recognized, but for three years small-pox has been prevailing in the United States in an entirely new form. Prof. Welch, of Johns Hopkins University, in a recent article on the subject, says he has been unable to find in medical literature any record of an epidemic of small-pox like the present one.

The following extract from an article on "Varioloid disease in the town of Gorham, N. Y.," by Charles A. Lee, M. D. (American Journal of the Medical Sciences, Vol. XXVI, July, 1853), is of such great interest in connection with the present outbreak that space has been given to it. It is true that in these cases seen by Dr. Lee the irregularities were mostly in vaccinated persons while this year and last the disease has presented just such modifications, but in the unvaccinated.

Dr. Lee says:

These are all the cases which I have visited, and they probably include all, with the exception of two or three, which have occurred. They appear to establish the following inferences:

1. That the small-pox virus will give rise to eruptions of a very diversified character; the modifications being produced by previous vaccination; the period which has elapsed since vaccination was performed; the age, general health, habits, idiosyncracies of the patient, etc.

2. The eruption may have all the specific characters (including water-pock and swine-pock) of varicella, small-pox, varioloid, pemphigus, purpura, and probably other forms of cutaneous disease.

3. In general, those persons who have been vaccinated will have the lighter forms (as varioloides of Gregory, and varioloid varicella), and in few, if any instances, does it prove fatal.

4. As a general rule, the disease will assume a milder form in proportion to the recency of the vaccination.

5. The eruption produced by small-pox virus may occur in a vesicular form, or in a papular, speedily becoming vesicular, and lastly, may become distinctly pustular, the pustules sometimes with and sometimes without a central depression, or may assume the form of pupura.

6. The eruption may be irregular in size and form, as well as in the place of its first appearance, and may occupy merely the surface of the skin, or penetrate the true skin, leaving pits. It may come out in successive crops on the body, after it has reached its height on the face, which may be on the fourth day, or protracted to the sixth or seventh, or even later.

7. The fluid contained in the vesicles may be water or lymph, sero-purulent or purulent; sanguinolent or sanguineous (pupra); and the pock may dry into horny scabs covering tubercular elevations of the skin, or scale off and leave the skin perfectly smooth, though of a dusky or livid hue, or scarred and pitted.

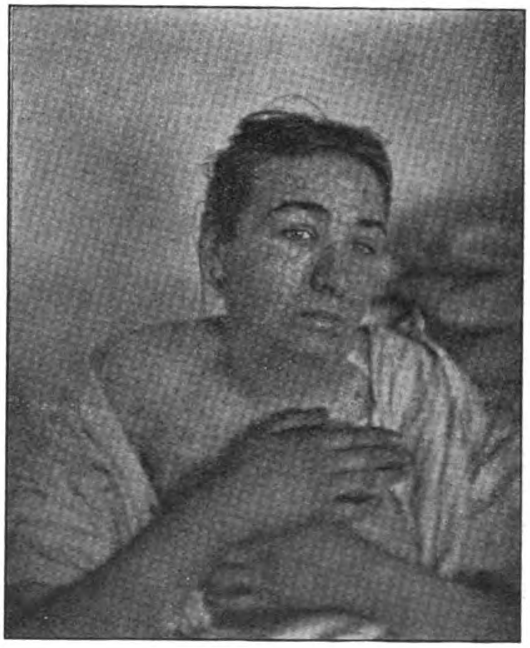

PLATE 1. Small-pox—Macular Eruption on Body, Macular and Papular on Face.—Cincinnati Branch Hospital.

8. At the decline of the eruption, vesication on an inflamed basis, to a greater or less extent, may appear, filled with lymph or air, and small abscesses may form in the subcutaneous cellular texture.

9. The eruption generally has none of the smell peculiar to small-pox, this being confined, for the most part to the confluent cases.

10. The disease may be so severe as to prove fatal, and so slight as not to be attended with eruptions, and but slight if any constitutional disturbance (in the vaccinated).

11. The varioloid form cannot be distinguished from pure variola by the character of the eruption; for, as in the latter disease, crops of vesicles may appear in succession for several days, the first beginning to shrivel while new

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*From Ohio Sanitary Bulletin Supplement, October and November, 1899.

ones are forming; the vesicles that remain after the third day becoming slightly opaque, and like pearls, taking on inflammation by the irritation of friction or scratching, so as to be collected into pustules; the scabs small and gummy, drying quickly, and crumbling off, leaving shallow cicatrices, and unattended with little if any constitutional disturbances.

12. The conclusions do not militate against the doctrine that there is a separate disease, chicken-pox (varicella lymphatica), which springs from a specific contagion, or poison, producing a vesicular eruption, running a definite course; having no tendency generally, when undisturbed, to suppuration, occurring ordinarily but once, affording no protection against small-pox, as small-pox affords no protection against it.

13. The above cases, therefore, do not prove the doctrine first promulgated by Sauvages, and advocated, in 1820, by Prof. Thomson, of Edinburgh, that small-pox and varicella are the same disease, produced by the same specific poison, any more than that they prove that pemphigus, purpura, etc., are identical with small-pox, and always produced by variolous poison, because they occur under the same circumstances.

14. Chicken-pox often occurs epidemically in various parts of our country, unmixed with varioloid cases, and not traceable to variolous infection, which proves the above proposition.

15. Lastly, when practitioners meet with any eruption, which is at all equivocal, they should use the same precautionary measures for preventing the extension of the disease, as if they were certain it was modified small-pox.

The successive crops of eruptions spoken of by Dr. Lee, have been seen in some cases in the present epidemic.

It is not strange that this mild, modified form of the disease now prevailing should have been so frequently unrecognized by physicians, or that the people, who had learned to regard the disease as one of the most fatal of maladies, should have doubted the diagnosis when it has been called small-pox. More than 2,000 cases of small-pox were reported in Ohio during the past year, and only 30 deaths.

The disease is now present in a number of places in Ohio and other states, and another epidemic of it is almost certainly upon us.

Small-pox is the easiest of all the contagious diseases to control if it is promptly recognized. When it is once well under way it is exceedingly difficult to stamp out. With but few exceptions local epidemics in Ohio during the last fifteen years have been due to the fact that the disease in the beginning was mistaken for chicken-pox. There is no other epidemic disease for which it could well be mistaken, after a number of cases have developed, although in one community it passed for impetigo contagioso for several months.

It will be well to describe briefly small-pox as it usually appears, and then note the variations of the prevailing type.

Fever is a prominent symptom of small-pox, ushered in gerenally with a marked chill. Starting in with a temperature of 101 to 102 degrees F. it rapidly mounts to 103-4, and often to 105 degrees. The patient takes to bed, and feels seriously ill. Pain in the form of headache, backache, and aching of the limbs is nearly always present. The severe pain in the back is frequently, but not always noted. Convulsions in children are of frequent occurrence. Sickness of the stomach and vomiting are common symptoms. The fever and other symptoms of this stage continue until the third day, as a rule, when an eruption appears, generally first on the exposed portions of the skin. This is at first in the form of small reddish spots, which soon show abvove the skin, as small papules. These are usually hard and shotty like to the touch. By the fourth or fifth day of the eruption the papules take on the eappearance of vesicles, and by the sixth or seventh day from its appearance the eruption has become pustular. About this time we may find "umbilication."

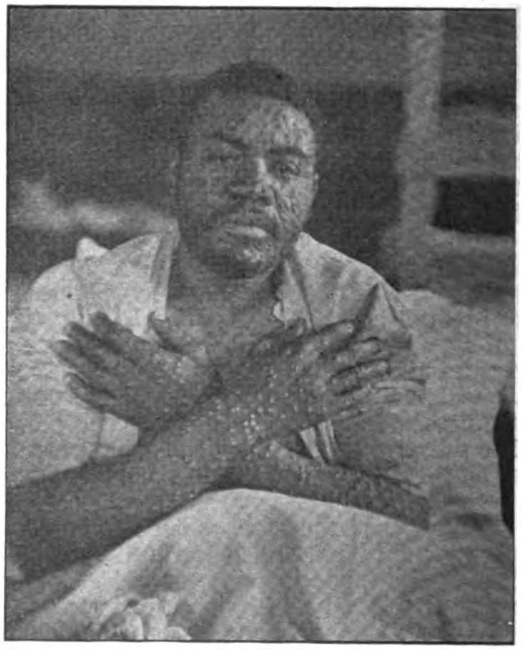

PLATE II. Small-pox—Vesicular Eruption. February, 1899. Cincinnati Branch Hospital.

With the appearance of the eruption there is a rapid drop in the temperature, which soon becomes normal or nearly so. When the eruption is scanty, even in the ordinary type of disease, there is no secondary fever. In such cases all the symptoms become very much better with the disappearance of the fever, and the patient is quite comfortable, and usually makes an uneventful recovery.

It is not necessary for the purpose of this article to describe the symptoms present with the secondary fever of the severe cases of the ordinary type, as but few cases during the present epidemic, have developed a secondary fever.

This rapid drop in temperature on the appearance of the eruption is highly characteristic of small-pox.

The peculiar order of small-pox spoken of by some writers, has never been observed by the writer prior to the rupture of the pustules. Where the eruption is very plentiful, there comes a time when the stench arising from the decomposing pus (especially when scrupulous care is not taken to keep the patient and his bed-linen clean) is something not to be forgotten.

The broken pustules form thick, firmly adhering, dark colored scabs. The true skin is generally destroyed by a greater or less number of the pustules, leaving the well-known permanent mark of small-pox.

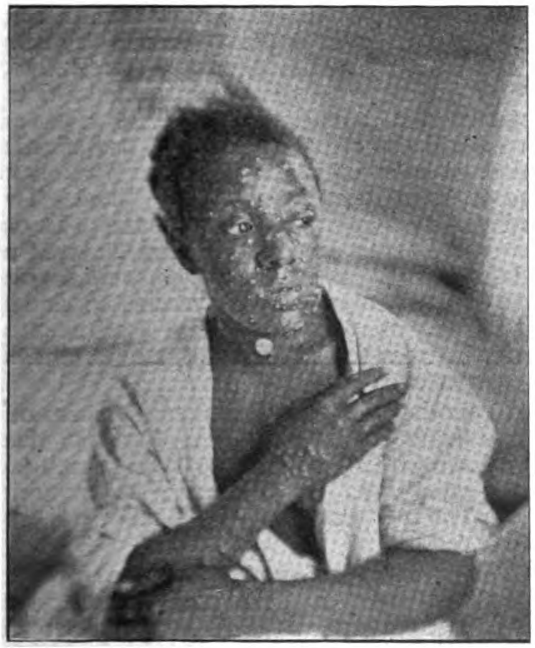

PLATE III. Small-pox—Pustular and Unbilicated Eruption. February, 1899.—Cincinnati Branch Hospital.

In all epidemics of small-pox, as in other diseases, the cases range from the most severe to the very mild, even in the unvaccinated. Heretofore mild cases in unvaccinated persons have been the exception; in the present epidemic they are the rule.

A description may now be given of the general run of cases of small-pox, as senn in Ohio during the past year and a half.

More or less fever is nearly always present, disappearing promptly as the eruption comes out. This may be slight, and especially in children. The mother will not infrequently tell you that she did not notice anything particularly wrong with the child until she saw the eruption. The patient often is not confined to bed and may come to the table for meals as usual. Sickness of the stomach or vomiting is a common symptom, but not of as frequent occurrence as in the severer type of the disease. The majority of the patients do not have the severe backache, although headache and pains in the limbs are frequently present. The eruption makes its appearance at about the usual time, but may be delayed to the fourth or even the fifth day. It is impossible, in many cases, in eliciting a history of the disease from the parents, to get a description of a papular eruption in the beginning. They will tell you that the first thing noticed was "little blisters" or vesicles.

The eruption often does not become distinctly pustular. The contents of the pustules will be more nearly sero-purulent. The umbilicated eruption may be seen, usually, though in but few places. The mucous membrane of the fauces and hard palate usually present points of eruptions, in the shape of ragged ulcers, and sore throat is frequently complained of.

The eruption does not seem to be deep-seated. As a keen observer said, in examining a case early in the present epidemic: "This case certainly seems to be small-pox, and the only doubt raised in my mind is by the fact that the eruption does not involve the true skin."

When the scabs drop off, dark colored spots persisting for tome time, are usually noticed. The scabs drop off sooner and are not as thick as those usually seen. After recovery, superficial markings of the skin may be found on looking closely, but the deep pitting of small-pox, even in severe cases, is generally absent.

The rapidity with which the eruption may mature and disappear is surprising. A recent case will illustrate this: A man had small-pox, which was not recognized until nearly four weeks after he was taken ill. He was then quarantined. On investigation he was found entirely well. His two young children, who had contracted small-pox from him, had also gone through with the disease in this time; but their skin was free from scales. The father had had a very plentiful eruption and was quite sick prior to breaking out. The children had had a very mild attack, with but little eruption. None of the three had been vaccinated.

Secondary fever in the present type of the disease is most unusual. The "small-pox odor" (if by that is meant the odor of decomposing pus), is seldom noticed.

Abortive forms of the disease are common. The eruption may rapidly run its course of macule, papule, vesicle and pustule, or it may be cut short in the papular or vesicular stage. In a very large number of cases the patient feels as well as ordinary after the eruption appears. It is the exception, rather than the rule, to find the patient in bed during the eruptive period of the disease. No age is exempt from the disease. This is of the greatest importance in distinguishing small-pox from chicken-pox. It should always be borne in mind that chicken-pox in adults is rare—very rare. In the nineteenth annual report of the State Board of Health of South Carolina, the following quotations are given in the support of such a statement:

Osler, Principles and Practice, Second Edition, page 69: "Varicella is an acute contagious disease of children, it is a disease of childhood. A majority of the cases occur between the second and the sixth year. It is rarely seen in adults."

Keating, Ency. Diseases of Children, article Varicella, by Dr. Chas. G. Jennings: "An acute specific infectious disease peculiar to infancy and childhood. In children over ten years of age the disease is rare, while in adult life it is so infrequent that many observers of large experience have not met with it. Varicella is particularly a disease of infancy and early childhood. Any varicella-like eruption in an adult should be looked upon with the greatest suspicion and the patients strictly isolated until by the history of the case, its source and the course of the disease, all doubt as to the diagnosis is dispelled."

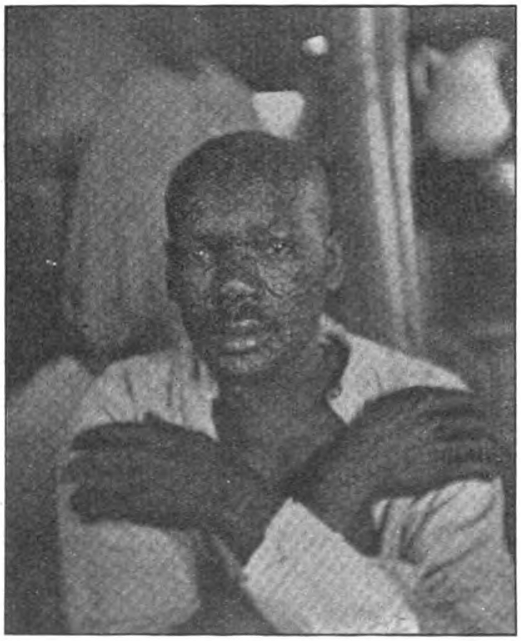

PLATE IV. Small-pox—Pustular and Umbilicated Eruption. February, 1899.—Cincinnati Branch Hospital.

Dr. James Nevens Hyde, in Pepper's System of Medicine, says: "Varicella is essentially a disease of early life, occurring almost exclusively in infants and young children."

Alix. Collie (Quain's Dictionary of Medicine), says: "It is certain it arises from contagion, and childhood is a predisposing cause. It occurs in children at the breast, and is seen with increasing frequency up to the fourth year, at which period it attains its maximum. It is less often found between four and twelve, and after twelve it may be said to disappear, although it is occasionally seen in adults."

Bartholow's Practice of Medicine, Fifth Edition, page 717: "It is a disease of childhood, and rarely attacks any above ten years of age."

Dr. Louis Thomas (Liepzig Ziemssen's Cyclopaedia), says: "Varicella is a disease of childhood and attacks by preference young children and even sucklings. In children over ten years of age attacks are infrequent, and I never saw an adult suffering from varicella. Eruptions resembling varicella in adults always indicated variola."

Vaccination is an important factor in diagnosis. When the disease has prevailed in a community for some time, masking under the name of chicken-pox (as has happened frequently of late), a report upon the vaccinal status of the members of all families where the disease has occurred will show that vaccination has afforded almost perfect protection against it. Two examples of recent occurrence may be cited. Two families were living in adjoining houses. In one there were seven persons, all unvaccinated; all had the disease. In the other there were six persons, one of them only was unvaccinated, and he was the only one affected. There was free intercourse between these families, small-pox not being suspected.

In another case there were ten members of a family living in a small house. Eight of them were down with, or rather were having small-pox at the same time. All of these were unvaccinated. The two vaccinated members of the family escaped.

The question of a previous attack of chicken-pox should be considered. Second attacks of this disease are rare. It is often possible to find the peculiar pits of a former attack of chicken-pox on the skin of a person broken out with small-pox.

It is quite easy to be deceived on seeing a single case of this mild type of small-pox which is now prevailing. When the disease appears in a community physicians should endeavor to see as many cases as possible. In every outbreak of this disease in Ohio where any considerable number of cases developed, some of them were fairly well marked cases of small-pox, easy of recognition.

Physicians, on being called to a suspected case of small-pox, should bear in mind the maxim: "The public is entitled to the doubt." If there is a suspicion that a case may be small-pox it should be treated as such until that suspicion is wholly removed. By promptly reporting to the local health authorities all cases, and suspected cases, so that proper restrictive measures may be at once enforced, an epidemic may be averted.

A NOVEL MATERNAL IMPRESSION.

Mr. John Booth, house surgeon to the South Charitable Infirmary and County Hospital, Cork (British Medical Journal), relates the following: "A very handsome thoroughbred fox terrier bitch, belonging to a friend of mine, got her right fore leg broken, which was set, and the dog made a good recovery. Several weeks afterward she gave birth to a puppy whose right fore leg—corresponding to the mother's broken limb—was ill developed and was minus the paw. The literature is full of cases of maternal impressions in the human family, but this contribution from the lower creation is, so far as I am aware, unique.

SCHOOL DOCTORS IN GERMANY.

Some of the primary schools in Germany have their own doctor. He watches over the classrooms, and is there to show that questions of warming, ventilation, lighting, and cleaning have entered into the kingdom of science, whereof he is king. Once in every fortnight he gives instruction in every class in the school, and the text he preaches from is Sanitas sanitatum, omnia sanitas. In short, he is the health officer of the whole establishment, the priest of Hygeia, and the philosopher and friend of the teacher and the taught.

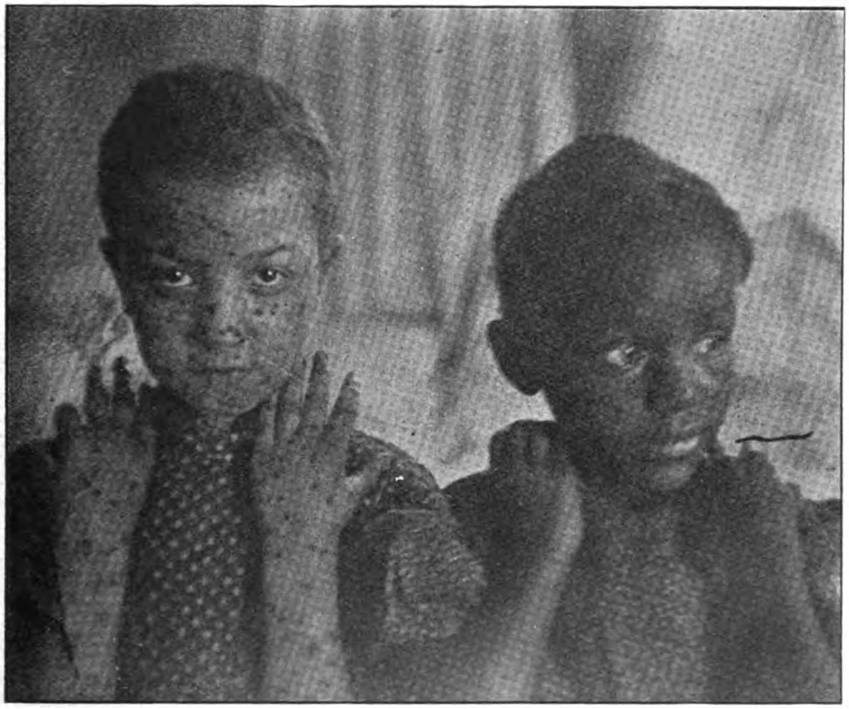

PLATE V. Small-pox—Pustular Eruption with Dessication. February, 1899.
Cincinnati Branch Hospital.

JAWS FASTENED TOGETHER FOR TREATMENT.

A peculiar operation which has excited much interest among American surgeons was performeed in the Memorial Hospital by cementing a woman's upper and low jaws together so that broken bones of the under-jaw might be held firmly in place until the fractures are healed and the bone tissue knitted together. Dr. Brewster, who performed the operation, is a dentist. He first made an impression of the upper and lower teeth, and from this made a rubber splint, which fitted perfectly the impressions of the teeth. This splint was cemented to the teeth, closing the jaws together firmly. Nourishment in liquid form is given her through the small apertures left by several teeth being broken out.—London Health.

AN INSIDIOUS ADULTERANT.

The fact that saccharin is three hundred times as sweet as cane sugar, and that it is chiefly produced from coal-tar, renders it a very convenient substitute for sugar in sweetening fruits, and in various other ways. It has by some been declared harmless because it does not produce immediately fatal symptoms when taken in moderate doses, but Payen ("Hare's Practical System of Therapeutics") calls attention to the fact that when taken in more than extremely minute doses (one and one-half grains per day), violent gastric pains are produced. A drug that is capable of producing violent gastric pains in so small a quantity as indicated is certainly dangerous for ordinary use, and is not a fit substitute for a food substance.—Modern Medicine.

THE MEDICAL DIAL
A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.
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FEBRUARY, 1900.

THE DETECTION OF GALL STONES BY RÖNTGEN RAYS.

Soon after the discovery of the x-rays, attempts were made to skiagraph calculi in the urinary bladder and kidney, also stones in the liver, gall bladder and ducts. The results were very discouraging. Most observers came to the conclusion that biliary calculi, at least, were completely permeated by the Röntgen rays, and, therefore, could not be demonstrated. Gocht, of Wurzburg, the cradle of the x-rays, states, in his work on the use of the Rontgen rays in medicine and surgery, that neither he nor any other experimenter had been able to represent biliary calculi in a living subject.

In the detection of renal and vesical calculi better results were obtained, for it was soon found that a fairly good skiagraph could be obtained when the calculus consisted of a hard and firm layer like the oxalates. The urates being less opaque threw a faint shade upon the plate, while phosphatic stones, being completely penetrable, threw no shade at all.

Dr. Carl Beck, of New York City, (N. Y. Med. Jour. Jan. 20, 1900), contributes a very interesting paper upon the detection of calculi in the liver and gall bladder, in which he shows that by improved technique more satisfactory results can be obtained than past experience has led us to believe possible. The patient should lie on his abdomen, with a pillow underneath the symphisis, as well as underneath the clavicles. This causes protrusion of the region of the gall bladder, thus bringing the calculi nearer the photographic plate. The approximation is still more increased by turning the body slightly to the right and raising the left side. The rays must not penetrate the abdomen in a vertical direction, but from the side, so that the thick and less transparent tissue of the liver is not permeated in its whole diameter. The rays should be so directed as to form an angle of forty-five degrees with the plate.

Ever since February, 1896, Dr. Beck has been experimenting in this direction, making ninety-seven skiagraphs in ninety-eight cases of suspected cholelithiasis. In only two of these was he able to obtain slight shades on the plates, and they were so indistinct that they were of no value for diagnostic purposes. He then hit upon a happy expedient. Four different photographic plates were employed at the same time. On the upper plate, situated below the region of the gall bladder, the outlines of the liver were well shown, while in the fourth and most remote it appeared only faintly, but the calculi were cleary represented.

A single plate was next used, and an exposure made with a quick-penetrating focus tube on a single plate, lasting ten minutes. Having found how long it took with this tube to represent the liver, a second plate was exposed for six minutes, with the result that the calculi were clearly defined, while the outlines of the liver were faintly marked. By several exposures of varying lengths of time it was demonstrated that the longer the time of exposure the clearer the liver, and the obscurer the calculi appeared.

Dr. Beck recommends making a short as well as a long exposure—say five minutes and ten minutes—in every case of suspected gallstones. The most powerful focus tubes should be employed, and as land marks to outline the organs, especially the liver, thin wires should be attached to the plate before the final skiagraph is taken.

THE MINNEAPOLIS SMALL-POX EPIDEMIC.

We regret to learn of the unnecessary controversy which has arisen between the Health Commissioner of Minneapolis and the Secretary of the State Board of Health regarding certain cases of infectious disease claimed by the former to be chicken pox, by the latter, small pox. The daily papers have not been slow in fomenting what they consider a doctors' quarrel, but in so far as the profession of the city is concerned there is no danger of any serious breach of good feeling among its members. Any personal feeling between the Health Commissioner and the Secretary of the State Board of Health should stand in abeyance while so serious a calamity as a small-pox epidemic is threatening the community.

Chicken-pox is epidemic in the city, and this no one questions. But that there are cases of small-pox there is overwhelming evidence, and it is to the best interests of the city and the country that we awake to this fact and act accordingly. A mild type of small-pox has been prevailing in many parts of the United States, and has visited Minneapolis as it has many other cities. The mildness of the epidemic should not lead us to treat it carelessly, for it frequently happens in epidemic diseases of any kind that the first cases are mild, but as the epidemic gains strength the cases become more and more severe, until the most virulent form of the disease is developed, and the mortality becomes terrible. This has been observed over and over again, and, as was pointed out by Dr. Thorne-Thorne, of the Local Government Board of London, we should learn the lesson from it, of stamping out at its beginning the mildest epidemic and deal as rigidly with it as we would with an infectious disease of the most virulent type.

The position of a health officer is a responsible and trying one. He naturally hesitates to announce that small-pox has visited his city, and should he do so unnecessarily, a storm of adverse criticism would fall upon his head. This consideration, together with the mild type of the disease, the prevalence of chicken-pox, and the opinions expressed by several physicians who saw only chicken-pox, has probably influenced Dr. Norton to take the position which he has held. Now, however, that there is no doubt of the existence of small-pox, the strictest quarantine should be enforced, and the community should to a man stand behind the health authorities in every measure they adopt for the public safety.

The first case of small-pox came to Minneapolis in October, since which time sixty-seven cases have been reported, thirty are nominally quarantined at the present time, but the quarantine is not strict enough to be of sufficient protection to the public, indeed, quarantine measures seem to have been adopted by the city Board of Health in a half-hearted way and more as a compromise with the state authorities than from a proper realization of the danger. Cards are placed upon the doors of the infected houses and we are informed on good authority that these cards are disregarded. Friends and acquaintances come and go at pleasure, and the small-pox patients are attended by their family physicians. Two cases of small-pox are reported each day and with the present half-hearted method of quarantine, we may expect that this rate will speedily increase and ere long the epidemic will become an epidemic beyond control. If there is still doubt in the minds of the City Health authorities of the existence of small-pox that point should be settled at once, and the strictest measures taken to quarantine every suspected case and have it attended by physicians employed by the city and who are not allowed to visit patients indiscriminately.

PRETTY GIRLS AS TRAINED NURSES.

No one can walk through a modern hospital without being struck by the number of pretty girls who have adopted nursing as their life work. Some are drawn to the training school by a romantic taste acquired by reading tales and studying pictures of Red Cross nurses. Many of these are destined to remain in hospital or private nursing for but a short time, when their hearts and hands are won by sentimental patients or love-sick internes, and they settle down to domestic duties. Others, however, enter the ranks and follow their chosen work from pure love of their calling, and are proof against Cupid's darts. The following from a writer in the New Orleans Times-Democrat is a case in point:

"Professional nurses have no business being so confoundedly good-looking," said a young man who has recently spent several weeks in a local infirmary. "The nurse who was delegated to attend to me while I was laid up was a distractingly handsome girl, with a pure Greek profile, reddish-brown hair—the kind that seems full of little golden tendrils in the sunlight—and eyes as liquid as a fawn's. The first time she put her finger on my wrist my pulse ran up to at least 175, and she took it for granted I had a high fever and dosed me accordingly. I tried repeatedly to lure her into conversation, but she wouldn't be lured. She was strictly business. When I started to pay her. compliments she would ask me to put out my tongue, which was an insurmountable obstacle in conversation. I used to lie there with my tongue hanging out, trying to put my whole soul into my eyes, but it was no go. No man can look romantic with half a foot of furry red tongue protruding from his countenance.

"Another way she had of gagging me was by putting the thermometer in my mouth. The last week I was there I proposed to her five times, or, rather, I tried to, but she invariably choked off my declaration by thrusting a thermometer into my mouth. I got so excited one time that I came near swallowing a thermometer worth several dollars. She was a most excellent young woman and had lots of sound common sense, as was evidenced by the fact that she gave me no encouragement whatever.

PREMATURE BURIAL—ITS PREVENTION.

At a meeting of the Medico-Legal Society, December 20th, 1899, in New York City, Emile Camis, Esq., of Paris, France, read a description of "Le Karnice" Safety Apparatus, and had a machine for exhibition, invented by Count Michael de Karnice Karniki, Chamberlain to His Majesty, the Emperor of Russia, and intended to prevent premature burial. Many persons entertain a horror of being buried while possibly in a state of lethargy, and justly so, as instances have occurred; to those therefore it will be a great relief to know that there has been a mechanical apparatus contrived that will successfully avoid all danger of such an untoward result. The Count having been present at the awakening and having prevented the interment of four persons stricken with lethargy, was impressed with the necessity of some means to prevent such a calamity, and devised the apparatus bearing his name.

It is said the machine gives satisfaction to science, and absolute security to the living and the dead; that is, there can be no harm to the living from communication with the apparatus, and the least movement of the apparently dead person gives an alarm.

The following twelve points give a summary description of the apparatus and its uses:

1. The apparatus is hermetical, and leaves no communication between the tomb and the living world, so as to render every fear of contamination impossible.
2. It can be easily transported, and may be used for a great number of graves, an essential condition to make it cheap, so that it hardly increases the cost of interment.
3. The apparatus is adapted and taken away without opening the coffin, and without moving a shovelful of earth; a work no harder than to thrust a pike into the earth.
4. The construction of the apparatus is of the plainest; no electric battery, so often defective; no complicated machinery; nothing that might not be understood by the simplest workman.
5. The apparatus works at the slightest and most unconscious motion of the lethargic person.
6. That motion, pressure or traction admits the air instantly and abundantly inside the coffin.
7. That motion brings also a little light inside the coffin as well at night as during the day.
8. That same motion makes a metallic ball rise perpendicularly to a height of five feet, so as to be seen afar.
9. By that same and unconscious motion a strong bell resounds.
10. An iron tube, through which air and light passes, as soon as the patient moves, becomes a speaking tube, carrying sound with great force.
11. Those various effects can only take place when the buried person moves.
12. The exterior apparatus can be opened by no one from the outside.

DEATH OF DR. WILLIAM A. HAMMOND.

Dr. William A. Hammond, of Washington, D. C., died January 5th, suddenly, while ascending stairs, probably of heart disease; he was 71 years old In 1864 Doctor Hammond, while surgeon-general of the army, was charged with irregularity in giving contracts, tried by court martial, and dismissed from the service. Fifteen years later he was restored by the President, through the influence of friends, to the rolls of the army as surgeon-general and brigadier-general on the retired list, Congress having by an unanimous vote authorized a review of the court-martial proceedings.

THE SO-CALLED "FLEXIAN" STYLE OF MARCHING.

A few months ago the Army and Navy Journal described the new "flexion" march which has been introduced into the French army. The Journal describes this style of marching as follows:

"The style is so new that there is no textbook on the market yet, but several French writers give the following general idea of the body movements: The knees must be always bent, the feet lifted no higher than necessary to clear the inequalities of the ground; the advancing foot must be placed flat on the ground, the step being made neither by the toe nor by the heel. The footfall should be noiseless, and the steps at first short and frequent. The body must lean well forward, the back must be straight and the head erect, the chest open and the shoulders low. It is recommended that when at drill a short stick be held with both hands in front of the chest. The lessons should not be more frequent than two or three times a week. A table is given of the distance to be traversed in each of the thirty-six lessons, beginning with three thousand yards, and going up to twelve thousand; also showing how in the early lessons ten minutes is allowed for the first kilometer, nine and a half for the second, and seven and three-quarters for the third; these times steadily diminish with each lesson as the pace increases, until finally the first kilometer, or five-eighths of a mile, is traveled in seven and three-quarter minutes, the second in six and a quarter. and the third in five and three-quarters. Now, one kilometer in five and three-quarter minutes is a good six and a half miles an hour."

This journal also speaks of a trial made at Nantes with two officers, two sergeants and 30 men who were put in training, and "after three months' instruction, they marched, in the presence of General Fay, carrying their rifles, bayonets, one hundred rounds of ammunition per man, and food for one meal, along a hilly road, a distance of twelve and a half miles in an hour and forty-six minutes. which is at the rate of rather over seven miles an hour. Not one man fell out by the way. After a rest of two hours, they returned in three hours and five minutes, including two halts of ten minutes each, which gives an average speed of over four miles and a half an hour. Two days afterward these same men, in the presence of General Colonieu, in heavy marching order, covered a distance of six miles and seven-eights across fields on hilly ground in an hour and twenty minutes, which works out at about five miles and a half an hour. At the end of their march they were at once told off to target practice, when their shooting proved superior to that of the best company of marksmen in the regiment; this was done to determine whether the exertions of their rapid march had injured their capabilities as riflemen."

The New York Medical Journal in commenting on this innovation editorially in its issue of September 23, says that the statement is made that "this style of march is really a run, although we do not find it stated that the foot behind leaves the ground before the foot in advance has taken it, and it is that occurrence, not speed, that distinguishes running from walking. Whichever we may call this new style of marching, a run or a walk, some important advantages are alleged for it. Naturally, as the trunk is inclined decidedly forward, the soldier does not appear so tall as he would otherwise look, and we may surmise that when advancing in this style under musketry fire a body of men might come out with less than the usual loss, on account of the tendency of the enemy's bullets to fly relatively more than ever too high. Dynamometric experiments are said to have shown that the foot does not press so heavily on the ground as in the ordinary style of marching, and so, it is suggested, the man has more strength left to expend in propulsion; moreover, there is less of a jar at each step, and, in place of the customary tramp of armed men, the tread is comparatively noiseless. * * * Enough seems to have been established in favor of the new style of marching to make it desirable to try it at least with our own forces. Such trial would be quite in line with the commendable modern idea of taxing the soldier's strength as little as possible."

Medicine comments on the "flexion" march somewhat sarcastically, and says that "there is nothing new in this discovery of the French army; this style of marching has been in vogue among the American Indians since they have been known to the white man. The forward stoop of the Indian in walking is favored by his peculiar foot-covering. It has also been noted that a body of Indians in marching have no tread, in the ordinary military acceptance of the term. While they keep step in marching in single file, yet the forward planting of the foot is done so lightly that there is no perceptible jar from the step. It is only when the human foot is deformed by the perversities of the modern shoemaker that walking is made such a difficult and laborious process. The high heels and narrow toes, by which the foot muscles are practically thrown out of use, make it necessary to adopt a more erect stride, with a thrusting forward of the foot and bringing down of the heel as the part which touches the ground first, and in rapid walking necessarily imparts a jar to the entire leg. This style of marching by a body of men produces a peculiar pounding, which when performed in perfect unison endangers the integrity of even the strongest bridges. This leads to the order to "break step" when troops are crossing structures of doubtful integrity. This "flexion," or what should be termed Indian style of marching, is but a reversion to an earlier type, and if it is adopted in military practice should lead to a more perfect foot-covering, one which admits of a spreading of the toes and the exercise of the prehensile power of the foot, the same as does the Indan moccasin."

ON THE USE OF IODOFORM.

The Western Clinical Recorder has the following to say editorially on the unwarranted use of iodoform as a surgical dressing:

"One of the most inexplicable things in the practice of surgery is the persistence with which the average practitioner, and even men making some pretense to the title of surgeon, misuse iodoform.

"As a powder it is not ordinarily aseptic, and can only by special effort be made so. It therefore may be a source of infection. It is not absorbent, and can serve no useful purpose in disposing of discharges. On the contrary, it forms with the discharges an impermeable crust which prevents efficient drainage. It has no antiseptic powers, except as decomposed by granulation tissue, hence it is useless as an antiseptic in recent wounds, the purpose for which it is most commonly employed.

"The average individual is capable of being injuriously influenced by iodoform in the quantities in which it is very often used, and many people are so susceptible to its action as to develop dangerous intoxication from what users of the drug would consider as minute quantities.

"We have had opportunity during the past few months to observe some desperate cases of dermatitis and intoxication following the use of the drug, and it becomes a matter for consideration from a medico-legal standpoint, should action for damages growing out of its use in other than tubercular cases arise, upon what grounds could the practitioner excuse himself. None whatever. Faith in its anti-tubercular power seems to be dwindling, and with the advent of our present less toxic agents iodoform should be banished even there.

"Why men of observation continue to use iodoform gauze within the abdomen is past finding out. The drainage gauze prepared as described in the January number of the Recorder possesses all its advantages—and many more—without its unpleasant toxicity.

"Stubenrauch has shown with a certainty that iodoform applied in even the smallest quantity to kidney tissue causes extensive fatty degeneration and parenchymatous degeneration of the renal epitheial cells, while in iodoform intoxication similar extensive parenchymatous degeneration of both kidney and liver occurs.

"Fenger notes the recorded cases of fatal iodoform poisoning after nephrectomy—we are cognizant of a number that have never been in print—and cautions against its use in even the smallest quantities, in renal surgery especially."

The Medical Dial is under obligations to the publishers of the Columbus Medical Journal for the use of the several half-tone cuts appearing in the excellent article on the "Diagnosis of Smallpox" by Dr. C. O. Probst, secretary of the Ohio State Board of Health, appearing in this issue.

The following testimony was recently given by a woman at the anniversary services of faith-cure believers, which was held at Mount Zion Sanctuary in Chapel avenue, Greenville, N. J.: "This man, when young, spilled some acid in his eyes and destroyed the sight of both. The physician removed his eyeballs and he was totally blind for many years. He was finally persuaded to pray for the restoration of his sight. Shortly afterward he felt something growing in the places where his eyeballs had been. New eyes were given to him, and to-day he can see as clearly as any person here."

Progress of Medicine.

SURGERY.

UNDER THE CHARGE OF
J. H. DUNN, M. D., W. A. HALL, M. D.
KNUT HOEGH, M. D.

TREATMENT OF ACUTE SEROUS SYNOVITIS WITHOUT REST.

We have been accustomed to insist upon complete rest of the affected limb in acute Serous Synovitis of joints. In most instances the intense pain leads the patient to adopt this advice without question, but it frequently happens that confinement is inconvenient, and irksome, and the duties of the patient demand his going about if that is possible. To such cases the treatment recommended by Phil. Hoffman, M. D. (N. Y. Med. Jour. Jan. 27, 1900), is applicable. The method may be called the compression treatment. It consists in filling all the depressions about the joint with cotton, and then applying strips of rubber adhesive plaster in such a way as to entirely encircle the joint and several inches of the limb above and below it, so as to make firm and equable compression.

The following report of one of Dr. Hoffman's cases illustrates the manner of using the plaster:

"A carpenter, aged thirty-seven years, struck his left knee, not severely, against a work bench. He felt slight pain at the time, though it did not inconvenience him enough to make him quit work, at which he continued until the close of the day. The next morning his knee felt somewhat stiff and sore, and he observed that it was slightly swollen. He, however, could get about, and attend to his work as usual. During the day the swelling increased and the joint became very painful, and compelled him, toward the middle of the afternoon, to keep off his limb entirely. When I saw him, the next day, forty-eight hours after the accident, the left knee was two inches and a quarter larger in circumference than the right; the joint was filled with fluid, as evidenced by fluctuation and 'riding 'patella; the skin was hot; there was great pain; the s lightest attempt at movement caused intense suffering, and the parts were exquisitely sensitive to touch. The leg was flexed at an angle of about one hundred and thirty-five degrees to the thigh.

"Treatment—A pad of cotton was placed in the popliteal space and the parts were covered with a close-fitting stocking leg. Over this stocking protection the adhesive plaster was applied as follows: A strip about an inch wide and thirty inches long was made to encircle the leg about six inches below the patella and carried upwards until the somewhat conical shape of the calf caused it to materially alter its course. Another strip was then appplied overlapping the first; above this another and another, and so on, ascending the leg, over the patella, and up the thigh to about six inches above the upper margin of the patella. Each strip of plaster was drawn very tight, so that the joint and several inches of both the thigh and leg were incased in a firm adhesive-plaster support, which exerted considerable pressure on all sides. A muslin bandage was applied over all to firmly press the layers of plaster totogether.

"The patient winced considerably during the application of the dressing, but after the same was once firmly applied the change was almost magical. The pain was entirely relieved and a sense of security was imparted to the joint. After some hesitation he was induced to use the limb, and, to his surprise, he could walk without pain and with only such lameness as was caused by the flexed position of the limb and the restriction of the bandage.

"Twenty-four hours later, as the dressing was quite loose, on account of the swelling having considerably subsided, it was removed. Measurement showed that the swelling was only an inch, a decrease of an inch and a quarter. It was also found that the knee could be fully extended. As the dressing became loose, slight pain reappeared in the knee. A new dressing was applied to fit the changed contour and extended position of the knee and the patient felt well enough to take up his work again, and he continued it throughout the whole course of treatment. Two days later, the swelling having gone down to half an inch, a new dressing was applied. Other dressings were applied on the tenth and sixteenth days, and the patient was discharged, cured, twenty-two days after the accident, though he was practically well so far as the usefulness and painlessness of the limb were concerned, one day after the first dressing was applied."

This method of treatment illustrates the old saying that the three graces of surgery are "rest position and pressure, these three, but the greatest of these is pressure." —J. W. M.

HOT WATER DRINKING.

There are four classes of persons (Indian Lancet) who should not drink large quantities of hot water. These are as follows:

1. People who have irritability of the heart. Hot water will cause palpitation of the heart in such cases.
2. Persons with dilated stomachs.
3. Persons afflicted with "sour stomach."
4. Persons who have soreness of the stomach, or pain induced by light pressure.

These rules are not for those who take hot water simply to relieve thirst better than cold water, and for that purpose is not to be condemned. But hot water is an excitant, and, in cases in which irritation of the stomach exists, should be avoided.—Nashville Jour. Med. and Surgery.

OBSTETRICS.

UNDER THE CHARGE OF

A. B. CATES, A. M., M. D. R. E. CUTTS, B. S., M. D.

POST-PARTUM HEMORRHAGE; ITS PREVENTION AND TREATMENT.

Edward P. Davis, M. D. (Medical Record, Jan. 13, 1900), maintains that to be forewarned is literally to be forearmed in the prevention of post-partum hemorrhage.

The most frequent cause of post-partum hemorrhage is exhaustion, which may be local or general or both. Less frequent causes are retention of partially detached placenta or a portion of placenta and membranes in uterus, lacerations of the genital tract and a profoundly altered condition of patient's blood.

The prevention of post-partum hemorrage calls for careful avoidance of exhaustion. This can be effected only by a thorough examination of each patient before labor, or in the earliest stages of labor, to ascertain the presence or absence of an insurmountable obstacle to delivery and to recognize if possible any complicating condition which may render the labor unusually long and difficult, also the relative size of mother and child, position of child, and its presentation, position of placenta, muscular vigor and development of mother's uterus and general muscular system, abnormal distention of uterus through multiple pregnancy or polyhydramnios.

During pregnancy the patient's general health should be cared for to prepare her for the ordeal that is before her, and in the conduct of labor, since exhaustion is the great cause of bleeding, the patient's strength must be carefully preserved. During the first stage of labor she should receive liquid food in small quantities and stimulus if necessary, and she should be made as comfortable as possible. In the second stage she should be placed in such a position as to favor the mechanism of labor. In first positions she should lie on her left side, in second positions patient should lie on her right side, and sometimes a semi-sitting posture may be favorable.

When for any reason interference is found necessary in the second stage there should be no delay. As soon as child and placenta are delivered physician should determine whether laceration of cervix accompanied by hemorrhage is present. In suspected cases it is well to introduce a speculum and with tenaculum forceps examine the cervix. If there is bleeding sutures may be introduced to check it. When there is no laceration of cervix the pelvic floor and penineum must next be subjected to scrutiny. If necessary to take stitches the suture should be immediately performed, unless relaxation of womb be present, when, before inserting stitches douche the uterus thoroughly with hot salt solution or with boiled water only, and tampon with iodiform gauze. As soon as this is done patient should receive hypodermic of gr. 1-15 sulphate of strychnine, then the stitches should be taken and ergot given by mouth or hypodermatically.

The physician should remain beside his patient holding uterus firmly but not fatiguing uterine muscle by unnecessary manipulation. In grasping the womb care should be taken that pressure is exerted upon anterior and posterior walls and that the tube and ovary are not included in such compression.

If hemorrhage is present the physician must determine quickly its source, whether from a relaxed uterus or from a torn cervix, pelvic floor, anterior vaginal wall or vaginal tissues. If the womb is well contracted, when the source of the hemorrhage is discovered stitches may be taken to control it. If there is no tear and the womb relaxes it should be grasped by the hand and a vaginal douche of hot sterile water, two quarts at 110 degree F., should be administered. Gr. 1-30 sulphate of strychnine with gr. 1-200 of atropine should be given hypodermatically, when in the majority of cases the bleeding promptly stops. Should further relaxation occur the physician should explore the interior of the womb and be sure that it is empty and clean, which may be done with the finger, hot douche or hot douche given through the blunt curette. If oozing continues at the conclusion of the douche it is well to pack with gauze. If strict asepsis has been practiced, patient kept externally clean by antiseptic solutions and sterile napkins worn, the packing may remain from twenty-four to thirty-six hours. It should then be removed, and the uterus thoroughly but gently douched with decinormal salt solution at a temperature of from 105 degrees to 110 degrees F. Strychnine and ergot should be continued as the condition of the patient suggests.—R. E. C.

"ARE ACQUIRED CHARACTERS INHERITED?"

This was the subject of the closing lecture of the Edinburgh Health Society, delivered in the Free Assembly Hall by Prof. J. Arthur Thomson, Aberdeen University. The lecturer confessed that he did not see how, if one kept to facts, it could be answered at present either with a confident affirmative or with an uncompromsing negative. What formed the basis of inheritance was the nature or organization of the fertilized ovum. Their present problem was, whether the modifications of the body could so specifically affect the reproductive cells that the next generation would inherit in some measure the modification acquired by the parent or parents. He had no hesitation in saying, after studying the subject for many years, that the scientific position at present should be one of active scepticism—leading on to experiment. Personally, he would go further, and give a verdict of non-proven for the affirmative, with a strong presumption in favor of the negative answer.—London Health.

PEDIATRICS.

UNDER THE CHARGE OF

H. B. SWEETSER, M. D. **J. P. BARBER, M. D**

HYDRIATIC MEASURES

In the Management of Fibrile Disorders of Infancy and Childhood.

Dr. Simon Baruch (Pediatrics, Jan. 1st, 1900) holds that water is not an antipyretic because the reduction of temperature is not its only, and not even its chief therapeutic attribute. He says that it is an unfortunate error that cold water has been ranked in books, lectures and discussions as an antipyretic, because it has obscured its real therapeutic value and interfered with its universal acceptance. The natural deduction from this false classification was the equally false idea that inasmuch as a larger dose of cathartic, for instance, produces a more decided cathartic effect, a colder and longer bath would increase the antipyretic effect sought. Excessive shock and collapse have often resulted from this erroneous conception, and the ill effects of cold baths, injudiciously administered, have led to their being abandoned and decried.

He thinks that the judicious application of hydriatic measures may supplant most, if not all, of remedies formerly used in the treatment of fevers. To show that we may depend upon it to diminish pulse-rate, reduce temperature, induce sleep, relieve pain, and arouse failing vitality, he takes as an example typhoid fever, which presents all the phases of fevers in its types and course. If it be a severe case in the second week we have all the manifestations of a febrile disorder—the dry skin, the parched tongue, headache, jactitation, agrypnia, high temperature, rapid pulse, etc. Immerse the child's entire trunk for ten minutes in a tub filled with water at 90°, practicing gentle friction with the flat hand, or with a soft wash cloth, constantly. Remove the child into linen sheet, wrapped snugly around it, and cover with a thin blanket. Repeat the bath every three hours, reducing the temperature of the water three to five degrees each time, until 75° or 70° are reached, then continue at this temperature as long as the rectum registers over 103°. What would be the result of this treatment? As a rule the child will fall into a gentle slumber, the respiration will become less hurried, the face calm, the skin moist, temperature and pulse-rate diminished—in brief, all febrile manifestations will be ameliorated, without the discomforts and dangers incident to the usual routine drug treatment.

The rationale of the beneficent results of these hydriatic measures is simple. The application of water having a temperature below that of the body produces a primary contraction of the cutaneous vessels, which is followed by a tonic dilatation. It is a fairly well ascertained fact that in many infectious diseases the peripheral vessels are in an atonic condition In the milder types and stages this condition of the vessels is not sufficient to impair cardiac action. In the more severe cases, however, the existence of this abnormal condition in the cutaneous vessels contributes to a more or less gradual exhaustion of the heart, the chief lethal danger which the physician is called upon to combat and prevent in febrile disorders.

The application of water, more or less lower than the body temperature, to the skin, if it be judiciously adapted in temperature, duration, and mechanical impact to each individual case, restores the lost tone of the cutaneous vessels, which are capable of holding two-thirds of the entire blood supply of the body. Resulting from their restoration to normal action we have increased resistance to the blood current, cardiac action is enhanced, as is evidenced by increased pulse tension, diminution of pulse rate, and removal of dicrotism. Following the primary contraction of the vessels, we find this tonic dilatation lasting from one-half to two hours, according to the intensity of the toxemia, the responsive capacity of the patient, and the hydriatic procedure employed. Repetition of such a procedure prolongs its good effects. As these results are accomplished through the nervous system, we at once have an improvement of the two basic elements in the maintenance of life. If there be any medicinal agent equal to this simple one in fulfilling these two chief indications, stimulation of the nervous and vascular systems, the author has failed to discover them in an active search of one-third of a century at the bedside.

The flexibility of water as a remedial agent presents additional advantage in fever. The rationale of the action being once grasped and the fact being recognized that not the reduction of temperature, but the enhancement through the nerve centers of the functional capacity of all the organs of the body is the object of cold water application, its field of action becomes unlimited. In the early stages of all febrile diseases of children, the full baths referred to are of value, when the body temperature remains persistently high and the accompanying discomforts of fever are pronounced; and yet simple ablutions often suffice to secure favorable effects. The wet pack, the sheet bath, the wet compress may be resorted to, each having its individual advantage and applicability.

It is a serious, but too frequent, error to fear the shock from water much below the temperature of the body. If it be borne in mind that the aim of cold application is a stimulus to the nervous system, which is to be evoked by reaction, and that the latter can only be obtained as a sequel to some shock, the fallacy of such apprehension becomes apparent. The chief point to be observed is the exercise of judgment in adapting the shock to each individual case. This, like everything else in medicine, must be learned by experience. The common practice of passing a damp sponge over the hot skin of a fever patient is of questionable value. The true stimulating effect upon the central nervous system and the cutaneous vessels, which is needed in the more pronounced febrile disorders of children can only be elicited by adding gentle mechanical irritation. This may be best accomplished by using a gauze, or other soft wash cloth, and allowing more or less of the cold water to flow over the skin. Only by using both methods—sponging and ablution—in the early days of an infectious fever, may the inadequacy of the former be appreciated .In all febrile disorders of children, the author is in the habit of ordering hourly or two hourly ablutions, beginning with water 90° and reducing it one degree each time until 60° are reached, as an initiatory measure. Their good effect may be readily sustained by a wet compress, composed of three layers of old linen, or towelling, more or less wrung out of water at 70°—60°, covered with thin flannel to keep the bed clothing dry, and snugly applied every hour to the anterior part of the body. When the body temperature exceeds 103°, it is a good plan to allow more water to remain in the compress, just wringing it out sufficiently to prevent its running over and wetting the clothing. In this manner the larger quantity of cold water abstracts more heat, and enhances the shock and consequently reflex stimulus.

In the pneumonia fevers of children, he uses the gradually reduced full bath, placing the child's entire trunk in water at 96°, using continuous friction over the body, while another person adds ice-water so as not to touch the body until the bath water is reduced to 85° or 80°—duration, five to eight minutes. Such a bath should be followed by drying and friction. In pneumonia he finds the chest compress at 60°, repeated every hour or two, an effective auxilliary. It deepens the inspiration, temporarily in creases cough, and thus aids in the expulsion of stagnant secretions; it arouses the heart, causing cyanosis to disappear for a time at least, and afterwards, when the compress gets warm we have the poultice effect of calming irritation, inducing sleep, and relieving pain, without the relaxation incident to the old fashioned warm poultice. If the parents object, the compress may be begun at 100° and reduced two to five degress each time until 60° is reached.

In those desperate conditions of branchopneumonia, whether idiopathic, or complications of the exanthemata, in which positive stimulation is needed, when the skin is cyanotic, the respiration shallow, pulse rapid and almost imperceptible, extremeties cold, though internal temperature is high, he orders a stimulant and personally administers an affusion with a basinful of water at 60° poured with some force from over the shoulders of the child, while the latter is held in a semi-recumbent position in a tub of water at 105° reaching to the navel. This is a measure of great value. Followed by drying and friction, and repeated every hour or two, increasing the number of basins of water gradually up to four, he has observed the overloaded bronchi relieved, the inspirations deepened and calmed, expectoration increased, cyanosis removed, and the pulse greatly improved. Indeed, the entire aspect of the case often changes after the judicious application of such an affusion. .The latter is also indicated in the early stages of those severe scarlatinas and measles in which similar conditions exist without pulmonary complications. He does not, as a rule, find cold full baths well borne in scarlatina, and for this reason, he mostly resorts to ablutions rapidly administered. There are, however, cases encountered in which full baths help to tide the patient over threatening conditions of hyperpyrexia and heart failure.

—J. P. B.

Neurology and Psychiatry.

UNDER THE CHARGE OF
W. A. JONES, M. D.

THE RELATION OF MIGRAINE TO EPILEPSY.

With the Report of Illustrative Cases

The author, William G. Spiller, M. D. (Amer. Jour. Med. Sci. Jan. 1900.), describes two interesting cases presenting similar histories, one of which had typical migraine, and the other finally developed fairly typical attacks of epilepsy. He then discusses, at some length, the transition forms between migraine and epilepsy and the relations between the two diseases.

Case 1—A. A. D., male, white, aged 51, has used alcohol ever since he was eight years old, but never drank to excess. Used tobacco to excess both in smoking and chewing, at the age of twenty smoking as many as thirty cigars daily. Seven years ago first noticed numbness on the end of his tongue on the right side, lasting a minute or two, which, while it lasted, rendered him unable to speak, although he knew what to say. Four or five years later began also to have numbness in the right hand and arm, which was accompanied by a sensation of "pins and needles" and some paresis. Shortly after this the numbness also appeared in the right leg and at the same time he began to feel as if the right eye were drawn up and back and the right corner of the mouth were drawn upward. An observer said definitely, however, that there was no change of the muscles at this time. Later, he had more serious attacks in which he lost consciousness for half to three-quarters of an hour. A tremor of the hands occurred, but neither jerkings nor twitchings. He feels so unusually well for twenty minutes or so before one of his major attacks begins that he knows the attack is approaching. He has had one attack in which the face was drawn and the upper limbs became flexed and rigid. He has not been a sufferer from headache, nor has he at any time had visual disturbances, hemianopsia, scintillating scotoma, etc.

Case 2.—A. B., age 21, is a well-developed woman. Her mother between the ages of eighteen and twenty-one had attacks of tingling in both hands and disturbances of speech, with severe bilateral headache, but without visual disturbances. Recently she has had attacks, lasting one-half hour to an hour, in which the person at whom she was looking became indistinct and seemed to have only one eye. A maternal aunt of the patient suffered from severe bilateral headache. No history of epilepsy on either side.

When four and a half years old A. B. lost her balance while sliding down the balusters, and fell a distance of eight or nine feet. A red spot was present on the side of the head, in a few minutes she became unconscious, and on recovering consciousness seemed excited, told long stories and for several sucecssive days her mind was exceedingly active.

Some months after the fall she had an attack in which the right arm fell powerless to the side of the body, and the whole right side seemed paretic for half an hour. Headache also was complained of. These attacks of transitory paralysis occurred for many years, sometimes on one side and sometimes on the other, but never on both sides at the same time. As she became older she complained of numbness and loss of sense of position in the paralyzed limbs, and intense headache on the side opposite to the limbs affected. No visual symptoms occurred at any time until the past year when she had dimness of vision in one attack.

A fall from a carriage a year or two ago had no immediate influence on the attacks. On Oct. 4, 1899, an attack of numbness began in the right upper limb and extended to the face and she lost the power of correct speech. She took a nap and awoke feeling well. The day before this attack occurred she had spoken of feeling unusually well. Toward night on Oct. 4th she had an attack in which she lost consciousness and the head and eyes were drawn to the right.

Dr. Spiller sums up the symptoms by saying: "We have, therefore, two cases in which attacks of unilateral paraesthesia and paresis occurred associated with disturbances of speech; and in one case with periods of unconsciousness; in the other with severe headache on the opposite side." After a careful comparison of the opinions of the various authorities he concludes the paper with the following summary:

1. Attacks of migraine occur associated with nausea and vomiting; this form is known as simple migraine, and usually remains unaltered during the life of the patient.

2. In other cases visual disturbances (hemianopsia, scintillating scotoma, amaurosis, etc.) are associated with migraine, and the disease is then known as ophthalmic migraine.

3. When paralysis of the ocular muscles occurs with the migraine the disease is described as opthalmoplegic migraine.

4. Migraine, especially the ophthalmic form, is related to epilepsy, and the attacks of migraine may precede for many years the convulsive attacks of epilepsy, although in most cases of migraine no convulsions are ever detected.

5. In some cases epilepsy occurs in the form of one or more of the disturbances seen occasionally with migraine, and, later, even after many years, convulsions develope. The disease may be epilepsy from the beginning It matters little, with our uncertain knowledge of the pathology of the two diseases, whether we regard these as abortive cases (forme fruste) of migraine that later become associated with epilepsy, or as abortive forms of epilepsy (sensory epilepsy), in which the convulsions become apparent later, provided we recognize a relation between some forms of migraine and epilepsy.

—W. A. J.

CLINICAL MICROSCOPY.

UNDER THE CHARGE OF

J. FRANK CORBETT, M. D., G. D. HEAD, M. D.

LEUCOCYTOSIS IN WHOOPING COUGH.

In the Arch. de Med. des Enfants Vol. I. No. 4, Meunier records the study of the blood in children with whooping cough. In the convulsive stage the white count averaged 25,500, a marked leucocytosis since the normal count in children is from six to seven thousand five hundred. The increase in the white cells is gradual and reaches its highest point during the paroxysmal period of the disease. Of the varieties of white corpuscles the lymphocytes are increased in greater proportion than the other varieties of white cells. —HEAD.

"CLINICAL MICROSCOPY."

In the Microscopical Bulletin, December, 1899, Yarrow and Hitchins publish a resumè of their investigations to determine the amount of error in the various instruments used for the clinical estimation of the quantity of hæmoglobin in the blood.

The specific gravity method, the Von Fleischl's and Grower's hæmoglobiometer methods, Henocques' hæmatoscope and Oliver's tintometer methods were compared.

The authors conclude:

(1) We recommend Oliver's tintometer as the most accurate clinical instrument for estimating the quantity of hæmoglobin in the human blood. This instrument is, however, too expensive for the ordinary practitioner, costing $62.50.

(2) For those who can not afford to pur-

chase the tintometer the specific gravity method will answer all purposes.

(3) For those who are accustomed to the use of the spectroscope we suggest the hæmatoscope of Henocque.

(4) Estimations made with Von Fleischl's and Gower's hæmoglobinometers are not to be depended upon when an accurate result is desired. —HEAD.

Hospital Clinics.

ST. BARNABAS HOSPITAL.

State University Clinic, by Dr. C. H. Hunter.

NOTES ON CASES ILLUSTRATING THE VALUE OF LUMBAR PUNCTURE.

It is now a number of years since Quincke introduced the practice of tapping the spinal canal for the diagnosis and relief of meningeal diseases. In spite of the frequent reference to it, even in the text books, and the special demonstrations of its value in the masterly essay of Councilman on epidemic meninigitis, I doubt if its use is generally popularized in the profession at large, so that I do not hesitate to emphasize this point in the clinic today.

The first case, Miss L., aged 20, was seen and reported by a member of the senior class, and occurred in the practice of Dr. Long. Her previous history was negative, she felt sick, dull and stupid on Monday and Tuesday, and on Wednesday a physician was called, who found her suffering from a moderately severe headache. She was completely unconscious, her temperature 100 and pulse 104. There were voluntary evacuations and cervical muscles were rigid. Kernig's sign was present. There was opisthotonos The right pupil was dilated. She was able to swallow, would slide out of bed to empty bladder and bowels, and blood count by Dr. Head showed the leucocytes normal. No sign of pain was manifested on making a lumbar puncture. In the fiuid thus obtained Dr. Wilson demonstrated meningcoccus. The onset with headache, early unconsciousness, stiff neck and Kernig's sign pointed strongly to meningitis. The two blood counts showed no leucocytosis, which is expected to be present in the epidemic variety of the disease.

One other case has come under my observation that came to post-mortem, exhibiting the lesions of cerebro-spinal meningitis, in which the leucocytes were not increased. (Dr. Day.) Thus it would appear that the diagnostic value of leucocytosis in this disease is not yet established. There was in this case certain hysterical appearances that would, I think, fairly leave one in doubt whether he had not to do with one of the more bizarre manifestations of this ailment had it not been for the finding of the meningococcus in the fluid obtained by the lumbar puncture.

The case I show you to-day will also illustrate the value of lumbar puncture in excluding tumor and demonstrating the kind of infection occurring on the meninges, supposing the coccus can be found.

Lizzie H. Aged 12. Enjoyed good health until August, 1899, at which time she had a slight fall, bumping her head on the stone sidewalk. In August she became peevish and ailing. In September typhoid fever was suspected and she was sent to the City Hospital. Her temperature was 101. She uttered sharp cries and suffered from headache. After remaining in the hospital for some time, she was sent home. In November she entered St. Barnabas Hospital with the following symptoms: She lies in a stupor, is delirious, neck stiff, and retracted, Kernig's sign is present. Right lower face is paralyzed, the left leg is weak, and patella reflex absent on the right side, cannot whistle, has some headache, crie hydrocephalique, tache cerebrale. Temperature 98-6, pulse 80 to 90. The right pupil is dilated, there is left divergent strabismus. The optic disc shows white, field of vision is restricted, there is a ptosis of the right lid. Evacuations from the bladder and bowels are involuntary. Leucocytes 5,000. There are signs of intracranial pressure. During November and December the pulse ranged from 56 to 60 and 80, and a few times was irregular. January, the symptoms have steadily developed; the nuchal symptoms are now negative, and the upper part of the head is enlarged and the eyes are prominent, the lids half closed, in the right eye divergent, uystagmus, the right pupil is dilated, the right lower face is paralyzed. Stupor is deepening and she calls for "nurse" "home", the voice is clear, deglutition is good. In the right arm there is contracture, as also in the right leg, the left arm and leg are flaccid. The respiration is sighing, she puts her hand up to the face and head voluntarily.

January 16, Coma is deepening, by lumbar puncture 12 drams of clear opalescent fluid are drawn with little sediment and no cells. In a culture fluid (broth) a coccus was grown, the fluid obtained at subsequent tappings shows nothing at all (Dr. Wilson). The coccus grown from the first might be a meningo- or pneumococcus. The gradual development of this disease, with some possible focal symptoms, led some to diagnose a tumor, others considered it to be a case of tubercular meningitis. In January a milligram of tuberculin was administered. There was no reaction (Dr. Head). The presence of the early nuchal symptoms, the absence of retraction of the abdomen, and length of time the disease has existed, four months being the longest time noted by Eichorst, militate against tubercular disease. The time (five months) and the physical character of the fluid, point toward epidemic cerrebro-spinal meningitis (meningococcus infection). We shall possibly be able to demonstrate later the nature of this puzzling case when we will report farther.

Medical Literature.

BOOK NOTICES.

LECTURES UPON THE PRINCIPLES OF SURGERY, delivered at the University of Michigan, by Chas. B. Nancrede, A. M., M. D., LL. D., Professor of Surgery and Clinical Surgery; Emeritus Professor of General and Orthopedic Surgery, Philedalphia Policlinic; Senior Vice-President of the American Surgical Association; Corresponding Member of the Royal Academy of Medicine of Rome; Member of the American Academy of Medicine; Late Major and Chief Surgeon, U. S. V., etc. With an appendix containing a resume of the principal views held concerning inflammation by Wm. A. Spitzley, Senior Assistant in Surgery, University of Michigan. Illustrated. Published by W. B. Saunders, 925 Walnut street, Philadelphia. Price $2.50 net.

The lectures described above are just what their author claims for them, and are certainly practical. They will not fail to meet the wants of students and busy practitioners seeking light and guidance in cases that come before them for treatment daily. We can recommend the work to the profession as one useful for ready reference and for correct modern views on the subjects treated.

NOTES ON THE MODERN TREATMENT OF FRACTURES. By J. B. Roberts, A. M., M. D. Professor of Surgery in the Philadelphi Policlinic, Mutter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. With twenty-nine illustrations. Published by D. Appleton and Company, New York City.

This small work of 150 pages deals with the treatment of fractures in the light of modern surgery. The fear which deterred the surgeon from converting a simple into a compound fracture by cutting down upon misplaced fragments is strongly combatted. At the same time a wise conservatism marks the author's methods of treatment as in the following:

"My advocacy of cutting down upon closed fractures is limited to cases in which ignorance of the exact lesion, impossibility of reduction, imperfect immobilization, or failure to deal efficiently with complicating lesions makes the incision the less of two evils. An asceptic incision is almost devoid of risk, even if it opens a joint; but that slight risk should not be added to the patient's burdens unless the probability of deformity, of interference with joint movements or other functions, of pains, of paralysis, or of non-union justify it. Here, as in all departments of surgery, it is the surgeon's duty to exercise care and good judgment in selecting the method of treatment. To illustrate my meaning I cite fracture of the patella, which I have never treated by incision and suture of the bone, because I have thus far always been able to satisfactorily bring the fragments together by hooks, subcutanaeous suture, or splint. In one or two instances I have almost decided to lay open the overlying tissues in order to obtain approximation by direct appliances, but I have finally not been obliged to do so. The open operation I believe to be legitimate, and probably needful in a very few selected cases, but I am opposed to it as a routine treatment.

"It is self-evident that the wound exposing a fracture must be asceptic, and that the operator who adopts incision must be familiar with the steps to be pursued at the inception of the infective inflammation. A man who will hesitate to reopen the wound or drain the joint, at the moment septic premonitions show themselves, should associate a more energetic surgeon with himself in such operative treatment of fractures. The risk of incising muscles and opening joints, if done in an asceptic manner by an operator familiar with truly asceptic and antiseptic surgery, is unquestionably very slight. Primary union without disturbance of joint-fracture will be almost universal."

In those vexatious cases of fractures at the lower end of the humerus which are so commonly met with the reader will find valuable advice in this work, and we commend the book to both the surgeon and general practitioner as a timely addition to the literature of a very important branch of surgery.

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By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with chromo-lithographs, engravings and maps. Volume IV. Published by The F. A. Davis Company, Philadelphia. Price: Cloth, $5.00; half russia, $6.00.

Volume IV, of the Annual and Analytical Cyclopaedia of Practical Medicine and Surgery is quite up to the high standard of the preceding volumes. One of the most valuable portions of the book is devoted to insanity in which the practical aspect of the various mental disorders, not only for clinical purposes, but for use in the court room, are clearly defined, and this chapter derives additional interest from the fact that it was one of the last contributions of Dr. Rohé whose name had been connected with the Annual since 1891. The diarrhœal disesases of children are dealt with in a concise and practical manner, and cannot fail to be appreciated by the busy practitioner. Among other subjects of special interest and value are "Malarial Fevers," by Prof. James C. Wilson, and Dr. Thomas Ashton, "Locomotar

Ataxia" by Dr. W. B. Pritchard, of New York, "Intubation" by Prof. F. E.Waxham, of Chicago, "Diseases of the Liver" by Prof. Alexander McPhedran of Toronto, and "Meningitis" by Dr. Charles M. Hay, of Philadelphia.

A MANUAL OF THE PRACTICE OF MEDICINE, prepared especially for students. By A. A. Stevens, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Terminology and Instuctor in Physical Diagnosis in the University of Pennsylvania; Physician to St. Agnes' Hospital and to the Out-Patient Department of the Episcopal Hospital, etc. Fifth edition, revised and enlarged. Illustrated. Published by W. B. Saunders, 925 Walnut street, Philadelphia. Price $2.00 net.

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THE MONTHLIES, Etc.

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COLUMBUS MEDICAL JOURNAL. (10) December 5: Report of a case of pseudo-diphtheria, F. L. Stillman, Columbus.—Intestinal obstruction, operation and recovery, with report of cases, S. Leach, Columbus. — The immediate hermetic sealing of wounds, is it safe, is it advised, H. O. Marcy, Boston.

December 20: Diagnosis and treatment of diphtheria, T. W. Rankin, Columbus.—Elimination, relation to the production of disease, W. S. Philips, Belle Centre, Ohio.—The diagnosis of small pox, C. O. Probst, Ohio (Reproduced in the Dial).

SOUTHERN PRACTITIONER, Nashville. (10) January: A discussion on the treatment of diphtheria (illustrated), E. G. Wood, Nashville.

SANITARY HOME, Fargo, N. D. (10) February: The habit of surfeiting the system, S. W. Dodds.—The question of vaccination, T. Moeller, Hillsboro, N. D.

LEHIGH VALLEY MED. MAG., Easton, Pa. December: Surgical cleanliness in private practice, C. F. Nassau, Phila.—Penetrating wounds of the eyeball, W. H. Dudley, Easton.

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MEDICAL BULLETIN, Phila. (15) January: Addresses and graduating exercises of the training-school for nurses of the Medico-Chirurgical hospital of Philadelphia.—Some cardiac and gastric diseases (a clinical lecture), J. M. Anders, Phila.—Dirt in lithemia, A. B. Conklin.

JOURNAL OF THE MISS. STATE MED. ASSOCIATION, Biloxi. (10) Sanitation and isolation as a means of prevention and eradication of yellow fever, J. A. Tabor, Scranton, Miss.—Gonorrheal infection of the puerperal woman, report of a case, M. J. Lowery, Meridian, Miss.—Placenta previa, W. W. Robertson, McComb City, Miss.

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OCCIDENTAL MEDICAL TIMES, San F. (20) January: The diagnosis of aneurism of the aortic arch, W. F. Cheney, San F.—Surgical treatment of aneurism of the aortic arch, J. Rosenstirn, San F.—Prevention and treatment of acute general peritonitis, W. A. Briggs, Sacramento.—Practical points in obstetrics, C. B. Brown, San F.

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INTERNATIONAL MEDICAL MAGAZINE, N. Y. C. (20) December: Gall-stone crepitus and friction, with illustrative cases, J. M. Anders, Phila.—On the relative frequency of hernia in the sexes and the various types in the female, a statistic comparison, T. H. Manley, N. Y. C.—Obstructive diseases of the male urethra, J. D. Thomas, Phila.—The importance of the early recognition of caracinoma uteri, and the methods by which it is attained, E. B. Montgomery, Phila.—The diagnosis of iritis, W. L. Pyle, Phila.—Laboratory methods of diagnosing tuberculosis, the staining of sputum, W. W. Babcock, Phila.—Neurosal conditions involving excessive secretions of the gastric juice (hyperchlorhydria, hyperchylia, gastroxynsis, etc.), B. Reed, Phila.

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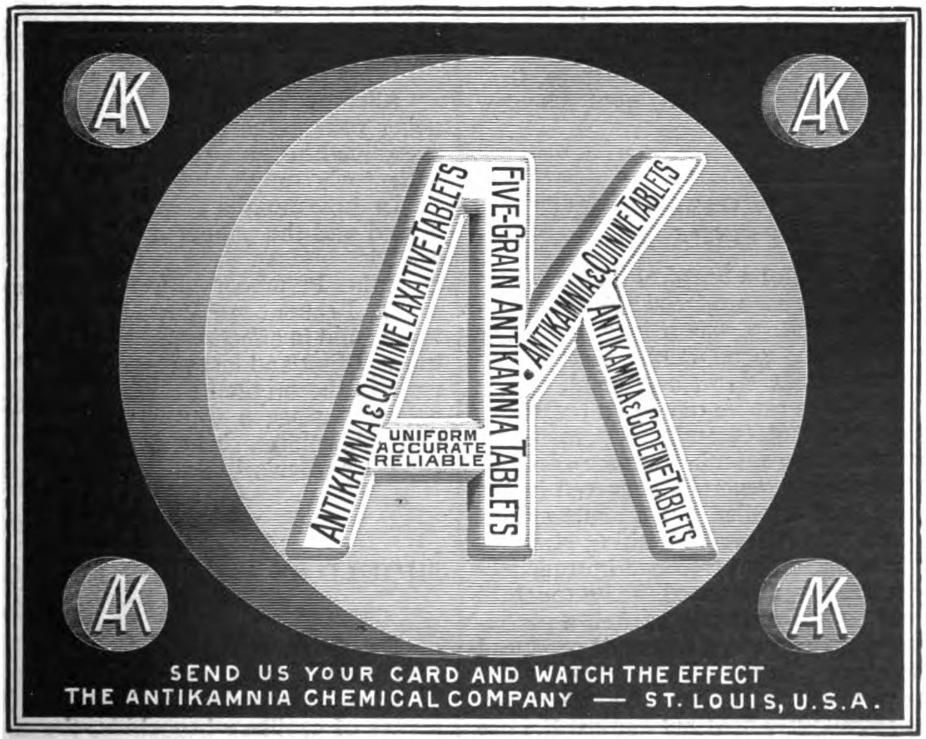
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H. R. WEBBER, M. D.
Univ. Med. School of Medicine, 1886, Member Am. Med. Ass'n, etc.
Chicago, Ill.

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Barnays ("Report of a Surgical Clinic") cites a peculiarly obstinate case of facial neuralgia with treatment. The patient was a lady aged fifty years, who showed a good family history and whose previous health was also good. The trouble began with a severe neuralgic toothache of her lower right molars, and was paroxysmal at first, but after two months became continuous. The paroxysms generally occurred in the early morning, and entailed much acute suffering. The pain was relieved by biting strongly upon some firm object, but returned immediately when the pressure was removed. The touch of anything cold or hot promptly excited a paroxysm. A moderate heat when sustained produced the opposite effect. In the effort to afford relief four molars were extracted, but without success. The patient strenuously held out against the use of narcotics in any form throughout the entire course of the disease. Antikamnia in ten grain doses (two five-grain tablets) was found efficient as an obtundant, and was relied upon exclusively. Eight weeks after section of the nerve, when the report was written, there had been no return of her former trouble in any degree.—The Medical News, Jan. 13th, 1900..

ALTERATIVE MEDICATION.

Henry Medical Essays points out the essentials of a successful tonic and alterative medicine. Such a combination will ultimately fail if it is not well adapted to the demands of an extended course of treatment. Among facts which may be considered as most thoroughly established by clinical experience are the peculiar tonic and alterative value of the salts of iron, bichloride of mercury and arsenic. They promote appetite, digestion and assimilation of food, in a word are tonic, and improve the general condition of the system by correcting errors in fluids and functions; in other words are alterative. The combined action of these three drugs is three-fold, and the action of one is supplementary to the other. He prefers protochloride of iron, which stimulates the glands of the stomach and augments the blood-making function. The action is supplemented by the sedative and oxygen carrying power of the arsenic and the intestinal and liver stimulation of the bichloride of mercury. Besides all this when these remedies are properly combined, as in the elixir of the three chlorides (Henry), they do not disturb digestion, cause constipation or produce other unpleasant effects. —Medical News.

30 LBS. IN THREE MONTHS.

Allentown, Pa., Dec. 28, 1894.—I have been using your preparation since 1887, when I first prescribed in a case of Phthisis (3d stage), in a patient who only weighed 87 pounds.

In three months I had all the diseased vesicles healed and the patient gained in weight to 117 pounds. Have used it in Chronic Bronchitis and other Pulmonary affections, with the best results. I cannot speak too highly of your preparation, and in affections of the lungs or bronchial tubes, I first and last prescribe "McArthur's" always in the original package, as I have learned a lesson, since a druggist dispensed "Stock" Hypophosphites, instead of your preparation, when I particularly desired "McArthur's."

W. N. POWELL, M. D.,
936 Hamilton St.

SHOULD BE ACCORDED A PROMINENT PLACE.

Dr. G. A. Kirker, of Detroit, Mich., President of the Wayne County Medical Society, says: "I recently prescribed 'Maltine with Creosote' in a case of capillary bronchitis, the results being highly satisfactory. The patient was a male adult who manifested the most aggravating and

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, MARCH, 1900. No. 3.

Symposium on Gonorrhea.

Ten Minute Papers Read at the Meeting of the Hennepin County Medical Society, February 5th, 1900.

CLINICAL FEATURES OF GENERAL INFECTION FROM GONORRHEA.

By A. Wang, M. D., Minneapolis.

Gonorrhea must be considered one of the severest foes that the physician and surgeon have to combat. It is an octopus which stretches its tentacles in many directions and sometimes where least expected. We have thus in the wake of an attack of gonorrhea, besides the local complications of gonorrheal urethritis, quite frequently acute, sub-acute and chronic inflammation of various joints and tendons, simulating rheumatism, meningeal endo- and pericardial inflammation, besides rarer affections of the spinal cord and nerves, not to forget the eye trouble from the systemic infection, distinct from the more direct local gonorrheal infection of the conjunctiva, but the more frequent form of a systemic infection from gonorrhea are found to be the so-called gonorrheal rheumatism. This disease was made known to the profession in 1781 by Swediaur and Selle. The proof of the distinctness of the disease from ordinary rheumatism we find in the different etiology; certain individuals not ordinarily subject to rheumatism get a peculiar form of rheumatism when they have gonorrhea and again other individuals with a marked tendency to rheumatism are not affected by an attack of gonorrhea. We can therefore eliminate the question of mere coincidence, but inasmuch as only a small minority of gonorrhoics are affected we must presuppose an individual idiosyncrasy.

Various theories are advanced in regard to the etiology or causation of general infection of gonorrhea. Some think it is due to a reflex nervous cause; some to a mild pyemia; and others to a transmigration of the gonococcus to the affected parts. In view of the fact that rheumatic attacks absolutely like ordinary gonorrheal rheumatism have been provoked by an instrumental examination of the urethra of a patient affected with simple or catarrhal or traumatic urethritis in which the absence of gonococcus was indisputable, has led some observers to call gonorrheal rheumatism, urethral rheumatism. Probably a variety of pyogenic organisms besides the gonococcus play a role in the causation of the gonorrheal infection.

The date of the appearance of complication of the disease in question is usually between the 6th and 15th day. This is by no means an inflexible rule as the disease has shown itself as late as the 4th month. Fournier's division of the disease into three prominent varieties is convenient and practical. The first and most common is an hydrarthrosis, attacking usually the knee, sometimes the ankle or elbow, and very often, according to some, the sterno-clavicular articulation. This form is usually mono-articular. This effusion into the joint is quite considerable and resolution very slow, integument seldom affected. The second variety shows symptoms like ordinary rheumatism, but more moderate, is poly-articular, attended with trouble in the tendon, eye, etc. The third variety is the form in which the affection may show itself as a vague ambulatory, sometimes very persistent pain in the joints without any structural lesion and rebellious to treatment.

To recapitulate, allow me to enumerate the following characteristic features of gonorrheal rheumatism which distinguishes it from ordinary rheumatism:

1. Urethral inflammation, no history of cold or exposure.
2. Rarely observed in women.
3. Non-febrile or less so than rheumatism.
4. Symptoms limited to a small number of joints.
5. Less movable than simple rheumatism.
6. Local pain relatively moderate, but very indolent.
7. Frequent tendency to Hydrarthrosis.
8. No sweating.
9. Urine not modified.
10. Blood not furnishing a marked buffy coat, not showing such excess of fibrine as in simple rheumatism.
11. Cardiac complications not so common.
12. Complications of special ophthalmia, inflammation of sheet of tendons.
13. Relapse when attacked by gonorrhea.

GONORRHEA IN THE FEMALE.

By R. E. Cutts, M. D., Minneapolis.

The importance of this subject is realized only when we consider the large number of sterile women, most of them chronic invalids, many requiring removal of adnexæ, others becoming pregnant either to abort or to give birth to babes who develop gonorrheal opthalmia and a large portion of these babes to become blind as a result.

To repeat, it is only when we consider the amount of suffering in women and children directly due to the action of the gonococcus, most of them ignorant as to the cause of their suffering, that we realize the gravity of this question.

In the time allotted, it will be possible to enumerate only some of the more important points thus opening the subject for discussion.

There are to be considered the primary points of infection, such as the urethra, vulva, vagina and cervix; and the secondary points of infection such as the bladder, vulvo-vaginal glands, endometrium, tubes, ovaries, peritoneum and rectum.

It will be necessary to confine the remarks of this paper to the genital tract, hoping the members will supply, in the discussion the many things necessarily left out.

In the acute form we have the classical symptoms following the few hours or days of incubation, viz.: burning, tingling sensation at the vulva, frequent micturition, becoming painful, sensation of heat and swelling at the vulva, with moderate systemic effect, such as rise of temperature and pulse with headache and general malaise.

In a few hours a slight tenaceous secretion forms, glueing the parts together, followed by an abundant greenish pus. The mucous membrane changes from normal pink to a bright red, and gradually to a livid color. Inspection on the fourth or fifth day reveals pus bathing the mucous membrane, in the meatus urethra, glueing down the hairs and excoriating the integument. The meatus urinae pouting, the vulva inflamed and tender to the touch.

The gonococcus flourishes best on surfaces lined with columnar epithelium and less on flat celled epithelium, hence the stratified pavement epithelium of the vagina is rarely involved unless changes are brought about that injure the delicate superficial layer of cells.

Inspection of the cervix shows marked inflammation, especially of the mucous membrane inside the cervix, and a great deal of the lucorrhea comes from this source. Should the cervix be the primary seat of infection which it often is, no doubt, owing to the deposit of the gleety discharge during copulation, the abundant secretion from the cervix flowing down and bathing the vulva and urethra would necessarily infect them.

These are symptoms of the more severe cases of acute gonorrhea. It is my belief that the greater number of women having gonorrhea never recognize the acute symptoms and pass them by as simply a cold, unless some complication compels them to seek the advice of a physician.

With proper treatment no doubt many cases never have other involvement than those enumerated and without treatment many have no further trouble until labor, abortion or some such circumstance lights up the old infection.

Piles in a patient suffering from acute gonorrhea is apt to lead to a painful complication. Either the profuse leucorrhea will be spread onto the membrane covering the hemorrhoids by the napkin, or vaginal douches are sure to infect them, thus producing a gonorrheal proctitis.

On account of the danger of infecting the rectum suppositories and enemeta should be seldom, if ever, used. How far the gonorrheal infection extends up the bowel I have never seen stated. In my experience it has run a course of from four to six weeks and nothing that I have been able to do, so far as medication is concerned has seemed to influence the course of the disease.

Why all cases of acute gonorrhea do not continue and the infection extend from cervix to endometrium, tubes and peritoneum, is as hard to explain as why all cases of anterior urethritis, in men, do not continue to posterior urethritis and so on into the bladder. No doubt the action of the sphincter muscle and the constriction at that point has much to do in preventing its entrance into the bladder. This being true why would not the marked constriction at the inner os uteri act similarly. With a wide external os permitting free drainage and a tight internal os it is only natural to suppose we may get a limitation and arrest of the disease at this point. The numerous follicles at the external os may retain the cocci indefinitely, one source of the so-called latent gonorrhea and the one which gives us trouble at child birth.

The small cervical canal in girls is usually suffcient to prevent extension, and so likewise might be in women, especially in multiparæ. On the other hand a large open cervix would greatly aid extension of the process. Should the infection extend to the endometrium it will in all probability continue into the tubes to be checked only at the fimbriated extremity by nature's barrier of adhesions.

The inflammatory process after the subsidence of the attack on the primary areas of infection is chronic in character. It frequently occurs that the patient has acute exacerbations but these are usually due to a leaking pus tube or the rupture of an abscess, and are of a mixed infection rather than distinctly gonorrheal.

While the gonorrheal infection of the uterus is generally limited to the endometrium which in time is thrown off, yet Winkel claims the extension may be through the uterine wall to the peritoneum, thus producing a metritis also.

In many cases the chronic course leads to an increase of glands producing what is known as glandular endometritis. All gynecologists know how futile any operation for this kind of metritis is, short of complete removal of all the generative organs; likewise how persistent a severe leukorrhea may remain after removal of adnexia despite curettings and all medication of uterus. Even the disagreeable discharge may remain after the Baer operation for removal of the uterus, since the compound racemose glands are left in the remaining cervical tissue.

It is in these glands of the cervix, the vulvo-vaginal glands and the ducts of Skene that the gonorrhea is most apt to remain dormant. If of these only the glands of the cervix are involved, it is impossible for anyone to recognize the trouble by inspection or clinical manifestation. To be sure there is some inflammatory process at the exeternal os, but how many multiparæ do we see with the same condition?

When the vulvo-vaginal glands or the ducts of Skene have once been inflamed there is pouting and discoloration at their orifices which cause one to be suspicous of gonorrheal infection. With gonococci in these glands it may be impossible to get a satisfactory specimen for miscroscopical examination, yet when they are stimulated as at copulation and especially during orgasm, the cocci may be poured out in abundance.

A woman once having had vulva-vaginal abscess will usually have repeated attacks, not that the glands become reinfected, but that, due to some slight bruise the tissue resistance becomes lowered and the germs, formerly quiescent, become active.

So too with the infected glands in the cervix; the inflammatory trouble has so subsided as to permit of the passage of the spermatozoa, the woman conceives, the pregnant state is passed without incident but while in labor, during dilitation of the cervix and passage of the babe, either by laceration of the cervix or the emptying of the contents of the glands by pressure the gonococci are liberated producing a puerperal sepsis or gonorrheal ophthalmia, or both, in from one to nine days. With a relaxed condition of the generative organs the inflammation is certain to extend to the peritoneum at least. As a result the tubes become sealed at the fimbriated extremity and barrenness results. If this was the first pregnancy it is almost certain to be the last, hence the origin of the expression "one child sterility."

It is claimed by Henrotin that in this gonorrheal puerperal sepsis' the extension takes place not along the mucous membrane but through the lymphatics, hence the frequency of ovarian and parametritic abscesses. It may be possible that it takes place in both ways, as the involvement of the tubes would point toward extension along mucous surfaces.

It is more often in these postpartum infections that the condition known as gonorrheal cachexia is produced.

Gonorrheal infection of the tube usually means its destruction so far as its physiological function is concerned. As the tube is lined with ciliated columnar epithelia and as the favorite field of the gonococci is in this epithelia it is only natural to suppose that their activity would be greatest at this location.

When the infection extends through the mucous membrane the deeper tissues become swollen, the tube is closed at the narrow point of exit from the uterus, the fimbriated end is closed by adhesions and as a result we find the typical gonorrheal pus tube. Should the uterine end remain patulous or soon become so, thus permitting the contents to drain off freely there is some prospect of a redevelopment of the mucous membrane and restoration of its normal function. It is on this ground that some surgeons consider early opening of pus tubes contraindicated. We have all seen pus tubes the size of an orange go down and never produce symptoms again, but I have never seen pregnancy occur in these cases.

The ovaries may be infected in two ways, either directly from the end of the tube and peritoneum or through the lymphatics. The interstitial variety of ovaritis with its multiple septic foci is probably due to infection through the lymphatics.

The treatment of acute gonorrhea in women is practically the same as that in man, and the methods are as various as the specialists. Rest, diet, laxatives and diuretics are quite universally recommended, but when it comes to local treatment, some recommend lotions, others powders, and still others suppositories.

The eastern dispensaries quite generally use the lotion treatment and for brevity I will simply give that used at the Johns Hopkins Hospital dispensary. The acute case is started with a vaginal douche of bichloride of mercury 1-80,000 the first day; 1-70,000 the second day; 1-60,000 the third day and so on until a solution of 1-5,000 is being used which is continued for a while. But if the discharge does not diminish satisfactorily, a change is made to Potassium permanganate 1-5000 which is daily increased in strength until a solution 1-1000 is used. Later silver nitrate may be used applied to the cervix.

The many newer remedies are being used in various dispensaries, but with what success I am unable to state.

Professional convenience.—Patient: I say, doctor, just what is this "grip," anyway?

Doctor: Why, my good fellow, that's the name we doctors have for everything nowadays but appendicitis.

Patient: Ah! and what is appendicitis?

Doctor: Why, that's the name we have for everything but the "grip."—Judge.

REVIEW OF NEW REMEDIES AND METHODS IN THE TREATMENT OF GONORRHEA.

Dr. C. D. Harrington.

In the entire range of medicine there are few disease in which so many methods of treatment have been advocated, as in gonorrhea.

The gonococci rapidly find their way to the lymph spaces of the upper connective tissue layers; they multiply and are brought to the surface by the leucocytes. It is not strange that abortive measures fail. Injections of nitrate of silver, bichloride of mercury, etc., cannot be brought in contact with the deeply seated gonococcus without destroying the epithelium; a local application that will kill the gonococcus, leave the mucous membrane uninjured, and not increase the inflammation, is yet to be discovered.

Internal medicine is of little value in the treatment of urethritis other than to render the urine as bland as possible, and thus prevent the burning and irritation during micturation. Many things have been lauded, and the stomachs of the unfortunates have been imposed upon beyond reason with copaiba, santol, salol and other drugs. Urotropin given in 5 gr. doses three or four times daily is supposed to have a germicidal effect upon the urine, and at the same time a slight diuretic action. If a slight diuretic is given with enough sodium bicarbonate to overcome the acidity of the urine it will be found more practical than to impair the digestive organs with drugs which the stomach will not tolerate.

Potassium permanganate is a remedy that we can depend upon and is a good standby. In a great many reports of cases where the newer remedies have been tried, potassium permanganate has been used at the same time, and it is hard to say just how much credit to give the new remedy. Permanganate may be used in solution of from 1 to 5000, to 1 to 1000, as an irrigation, either to be used by the patients at home, with an ordinary hand syringe, or by the physician at his office with a Valentine irrigator. The solution should be as hot as the patient can comfortably bear it.

A good irrigator for the patient's use may be improvised from an ordinary fountain syringe; the tip used should be the ordinary short conical nasal tip which answers the purpose very well. I have had patients with a posterior urethritis, themselves irrigate through into the bladder, with this kind of an irrigator, with good results.

The different kinds of urethral irrigators to be inserted into the urethra with the object of getting beyond the diseased part and allowing the solution to only wash the urethra on its return, are of little value, and considerable harm can be done to the already inflammed and irritated urethra if proper care is not taken.

Silver Nitrate.—The great benefit derived from the use of silver nitrate in both acute and chronic cases cannot be questioned. It is by no means a new preparation, but some of the methods of using it are of recent date. A mild solution may be used with the Valentine irrigator, and is of much value in the treatment of chronic cases; the secretion is generally increased for from 12 to 24 hours, after which it diminishes. As an irrigation it should not be used more than twice a week. A favorite method of treating chronic posterior urethritis, is by the instillation of a few drops of a two to ten gr. to the oz. solution, directly over the seat of the trouble, with an Ultzman's syringe. It is sometimes better to pass a full sized sound to dilate the urethra before using the instillation.

With the use of the more recent preparations of silver, I am not very familiar, but will draw conclusions from cases given by others.

Argentamine is superior to silver nitrate in that it is less irritating, and more energetic when used in the same strength. For irrigation of the anterior urethra it is used in solution of from ½ to 1 per cent, and from 1 to 4 per cent for instillation into the posterior urethra. It produces a slight irritation which quickly subsides; the secretion is increased after the first few injections, then rapidly diminishes. It has decided astringant and antiseptic properties.

Argonin, soluble in hot water, slightly so in cold, a 10 per cent solution is used for irrigating the anterior urethra and should be used twice a day for three or four days, it does not coagulate the albumen of the tissues; 2½ oz. of a 1½ per cent solution may be injected into the urethra and retained five minutes after each injection; gonococci are claimed to have been destroyed in from two to six days; it does not cause any irritation of the urethra, and in most cases it lessens the discharge very rapidly. The gonococci generally disappear in a short time, but there is a tendency to relapse in a good many cases. Agonin is of benefit during the stationary period, but not in the period of decline. No results are obtained in the treatment of chronic anterior urethritis.

Methylene Blue, given internally in doses of 2 to 4 gr. in capsules, maximum dose 15 gr. in 24 hours, given at one time or during the day. It should not be confounded with Methyl blue, which is not given internally.

Methyl blue with sodium hydrate changes color to a redish brown; methylene-blue with sodium hydrate changes color to violet. 2 gr. doses given three times a day, sometimes produces slight diorrhea; in case it does the dose should be reduced one-half; the larger dose is more effectual than the smaller one. Methylene blue always colors the urine and generally gives it a very decided blue color in a few hours. Of this the patient should always be advised; one patient who had not been so informed, called the doctor out in the middle of the night, and told him that he was passing ink.

Dr. Horwitz, Jefferson Medical College, analyzed 105 cases of acute gonorrhea treated with methylene blue; 2 gr. doses were given three times a day; in about ¼ of the cases this produced slight diarrhea, when this condition developed the dose was decreased one-half, and in no instance did this dose produce any bad effects; it was found that nut-meg, combined with the remedy served in many caes to prevent the development of the diorrhea.

In the majority of cases when the remedy had been administered four or five days, the profuse, purulent discharge was changed to a slight mucoid excretion, with an abatement of all inflammatory symptoms. Frequently the discharge disappeared entirely at the end of the second week. In some few instances a few gonococci could be found between the 8th and 20th day, but in the majority of cases they could not be found. In a few cases where the methylene blue was discontinued too soon, the discharge returned at the end of about a week.

In non-specific urethritis, no benefit was derived from administering methylene blue.

It would be hard to say from this report just how much good was derived from the methylene blue, as he gave at the same time, injections of potassium permanganate, starting in with a solution of 1 to 2000 and increasing it to 1 to 1000; and in the stage of decline astringents were used.

Methylene blue may be used in gonorrheal vaginitis with tampons wet in the following solution:

Methylene blue, 2½ dr.
Alcohol 3¾ dr.
Potassium 3 gr.
Water 6½ oz.

Two or three tampons are introduced into the vagina and retained two days. The pus secretion stops by the fourth day, and congestion disappears in about twenty days.

A few words might be said in regard to the use of the Valentine irrigator in both acute and chronic cases. The method now in vogue is by no means a new one, but applied with an instrument that costs more, is more attractive to the patient's eye, and at the same time more convenient to the doctor. The solution to be used depends upon the case. If it is an acute anterior urethritis, the fountain head should be raised but slightly above the patient's head; care should be taken not to use any force, and to allow the solution to run in and out freely; a copious irrigation should be used, and treatment given once, or better still, twice a day for a few days until the discharge lessens, then the intervals between irrigations should be lengthened. It is the practice of some to irrigate through into the bladder, from the start, first washing out the anterior urethra and then allowing the stream to flow freely into the bladder until it is filled, and then allowing the patient to void the fluid; this is to be repeated three or four times during each treatment. The point held is that nearly every case of anterior urethritis becomes posterior in time, and the danger of infecting the posterior urethra does not counterbalance the good obtained from the thorough irrigation from the start.

In chronic posterior urethritis the fountain head should be raised a foot or more above the patient's head, according to the case; care must be also used here, not to use too much force; by carefully irrigating the anterior urethra the sphincter muscles will soon relax, and allow a free flow into the bladder; occasionally a patient is found who cannot relax sufficiently to allow the stream to pass, but by a little coaxing it can be accomplished; the patient is told to take a deep inspiration, and attempt to void the urine; this will generally allow of enough relaxation to let in a small amount of the fluid; this is to be repeated until the desired end is obtained; sometimes by the use of a very warm solution—110° to 120° F. relaxation takes place very quickly. It is an instrument that amuses the patient and skillfully used is of much value, but may do much harm if placed in unskillful hands.

Protargol, a fine light yellow powder containing 8 per cent of silver readily soluble in water. Aqueous solutions are not precipitated by sodium chloride or solutions of albumen, thus making it of more value than silver nitrate when used as an irrigation on account of its being more penetrating and less irritating in action. It is used in solution beginning with 3 per cent during the active stage of the disease and gradually increasing to 1.5 per cent. Some writers recommend its being used every four hours night and day. It is better used directly after urinating. In a report of fifty cases by a physician in Chicago the discharge disappeared in from one to fifteen days and the gonococci in from 12 to 48 days.

Ichthyol and a number of other remedies have been advocated by some, but I do not think they will take the place of those already mentioned.

With the proper use of the Valentine irrigator and the Ultzman's syringe, potassium permanganate, and one of the silver preparations, with possibly a mild astringent in the latter stage of the disease, are all one will need in the local treatment of gonorrhea.

GONORRHEAL CYSTITIS.

Sodium Bicarbonate, 1 oz.
Borax, 2 oz.

Two teaspoonfuls in a quart of lemonade to be taken in the course of a day.—Balzer, Med. Record.

PROSTATORRHEA.

Tinct. Nux Vomica, 1 fl. dr.
Tinct. Iron Chloride, 3 fl. oz.

Twenty drops three time a day—Gross, N. Eng. Med. Monthly.

PROPHYLAXIS OF GONORRHEA.

By Knut Hoegh, M. D., Minneapolis.

Prophylaxis may properly be considered from a double point of view, the individual and the social, both intimately associated. It is futile to say that absolute sexual abstinence is a sure prophylactic measure, for the exercise of the sexual function is a condition of the preservation of the species; nor is absolute monogamy a certain preventive for any individual, as long as the other party is not monogomous. It must be the aim of any enlightened ethical education to bring this condition about, but as humanity is now constituted, the realization of this object seems tolerably afar off.

We must reckon with existing conditions, and the question before us is then; how can the individual protect himself or herself against this infection? Let us first look at the man. Various means have been advocated, the most familiar probably being the use of the condom. There are many objections to this appliance; but I shall not touch upon the moral or the esthetical side of the question. The chief objection from the sanitary point is the insufficiency of the protection. Owing to this and other reasons I do not think that condoms will ever become so popular that they will materially diminish the number of infected cases.

In our daily application of the principle of disinfection we might perhaps find a suggestion of practical value. Crede of Leipsig has been able to minimize the number of gonorrheal infections of the eyes of the newborn by the instillation of a few drops of a 2 per cent solution of nitrate of silver in the conjunctival sac. Why should not this method be extended to the meatu urethra in the man? As the prepuce and the glans may be infected these parts should also be disinfected. From practical reasons it might be preferable to advise the preliminary use of a solution of one to one thousand bichloride of mercury for immersion and washing, and follow it with the instillation of a few drops of silver solution in the fossa navicularis. If a process so easy and painless was once known to prevent infection it would soon become immensely popular. The houses of prostitution would find it to their advantage to encourage it and would soon be provided with suitable appliances.

There is one class of cases that most particularly demand our sympathy, and that is the pure and innocent girls who marry men who are subjects of gonorrhea. We know how protracted the disease may be, how it may be latent for years, and yet be able to carry infection. I think parents should insist upon a medical examination of intending sons-in-law, an apparently harsh and brutal measure, but in my opinion prefectly justifiable in view of the seriousness of the question involved. No man should be allowed to marry unless he can bring a "clean bill of health."

Regarding the question of social prophylaxis, opinions have been widely divergent. There is reason to believe that the disease is spread very largely by non-professional prostitutes, and they can of course not be reduced by any legislation. It seems that clandestine prostitution is encouraged by the absence of regular brothels. To the humiliation of our species it thus seems that these are the lesser evil. Can they be kept under a satisfactory surveillance by the sanitary police? Something may perhaps be done, but the problem is so difficult that its solution always will remain nearly impossible.

Another point deserves our attention. Nearly all sick benefits are withheld from people suffering from venereal diseases. This leads to concealment and absence of treatment. If mutual sick relief was extended to such sufferers they would have less temptation to go without treatment and the disease would be easier controlled.

In conclusion I would say that the most important prophylactic feature in my opinion would consist in the discovery of trustworthy means and methods of personal disinfection.

GLEANINGS.

ARGONIN: ITS USE IN ACUTE URETHRITIS.

By T. A. Hopkins, M.D.

(American Therapist.)

A glance through the medical journals of today would convince the most skeptical that the urethra is receiving almost more than its share of attention from medical writers, and it would seem that the therapy of this tract must have reached a high degree of exactness; but exactness is not a characteristic of work generally done in this department, and until there is a degree of certainty and celerity in the treatment of urethral diseases, no apology for a further paper on the subject is necessary.

My purpose in writing is not to advance distinctly new theories, nor is it to exploit essentially new procedures, but rather to add my experience to that already on record and ivite discussion of means and methods already generally familiar.

It is now something better than twenty years since Neisser first demonstrated the germ of specific urethritis. His discovery was heralded as a long step toward positive and speedy treatment of the disease. Years have passed and although the gonococcus has gained recognition the world over, and almost every remedy in the Pharmacopeia has been lauded as the sure cure, clinical experience has demonstrated the fact that we are reaching the desired end in a most painfully slow manner. It is a very simple thing to kill a gonococcus in a test tube, but it is quite another matter to hunt and slay him in his lair. In therapy the desideratum is some remedy which will accomplish the destruction of the gonococcus with certainty and at the same time limit and allay urethral inflammation. To this end the profession has more to show in the way of results from the work of the last five or six years than from all the years before. Janet established the right of potassium permanganate to a prominent place among antigonorrheics. Valentine systematized and developed the idea and made it a greater success than had been even hoped for, but beyond this, a new impulse was given to original research along this line. It was through this that the profession was awakened to a real appreciation of the disease and to scientific methods in handling it, the dormant originality of many bright minds was awakened and as a result the whole technique of urethral work has become revolutionized. As an additional result, and the most important in my opinion, was the subsequent production of new remedies. The laboratories of the world, seeing the need, set about meeting it and as a result we have several new products, any one of which is superior to any generally in use ten years ago.

The literature on the abortion of gonorrhea has always interested me, and I have allowed little that has been written to escape me. My experience in following out most of the plans advanced has resulted in lamentable failure. It seemed, no matter how carefully the plans were followed, that results were absolutely uncertain, success would come only often enough to stimulate me to continued effort, but I came to look with suspicion upon claims of having aborted the disease in any greatly continued series of cases. Though the means at hand now gives us better results than formerly and possible abortive treatment is an established fact, I still believe that many of the reports, and especially those where posterior involvement is a factor, must be based upon false premises from the start. No statistics concerning gonorrhea are worthy of consideration which are not based on a diagnosis made with the aid of the microscope. The microscope makes the diagnosis and governs the treatment, the absence of microscopic examination and repeated microscopic examinations discredits any statistics. A knowledge of the simplest and most rudimentary elements of microscopy is all that is needed, and he who fails to exercise it does justice neither to himself nor to his patient, and in reporting success he perpetrates a wrong upon the profession.

In my search for the abortive treatment, silver nitrate, potassium permanganate, ichthyol, and later the newer silver salts have each in its turn held a prominent place in my routine treatment. Each is valuable, but it is in one of the last, argonin, that I found a vastly superior remedy.

Practical experience had prejudiced me in favor of silver in urethral work, and I have expected a silver salt to be the desideratum. For this reason I have followed the newer products with interest and have religiously given each an opportunity to do for me what is was claimed to do in the hands of others. The first verbal reports on argonin discouraged me and I delayed taking it up until a year past. It is always well to be conservative, but in this instance it might have been better for my patients had I been less so.

Argonin is already a familiar product to medical men. It is a fine white powder of neutral reaction, obtained by adding silver nitrate to a solution of sodium compound of caseine, from which it is precipitated with alcohol. Compared with silver nitrate, it contains silver in the proportion of 15 to 1. By way of superiority over silver nitrate and the other salts it possesses the advantage of being absolutely non-irritant, except in very rare cases, where it is but very slightly irritating, yet fully as active as an antigonorrheic. In its use complications are rare. By way of disadvantages but one can be urged against it, and that is the necessity of frequently making new solutions. With age the solutions become worthless, even though kept in amber bottles, and no others can be used; fresh solutions are necessary every second or third day.

In treating anterior urethritis with argonin the first consideration is the diagnosis. If gonococci are not present stick to your astringent injection, but when they are in evidence a plan similar to that of Juddassohn will be efficacious. My own practice is as follows; The patient is given little internal treatment, a laxative if indicated and a mild alkaline diuretic. For topical use he is supplied with a 2 per cent solution of argonin and a Goodyear No. 23 syringe, which is a glass urethral syringe with a soft rubber tip. He is instructed to use the solution two or three times daily in connection with the office treatment. His injection he uses after urinating, and he uses enough solution to fill the urethra to a point entirely behind the inflamed area; this he retains in the urethra five minutes. He is also supplied with clean cover-glasses and instructed in the technique of securing good specimens of the discharge for microscopical examination. These specimens he secures in the morning, before urinating or the use of the injection. He is required to visit the office at least once daily and at that time submits the cover-glass specimen of morning's discharge, which is stained and examined each morning while the patient waits treatment.

At the office, after making the double glass urine test, I wash the anterior urethra thoroughly with a solution of hydrogen dioxide, after which I inject argonin much as I have instructed the patient to do, but using a strength varying from 6 per cent to 10 per cent, regulating this by the stubbornness of the attack as indicated by the microscope from day to day.

The treatment is continued for some days after gonococci have disappeared from the secretion, the frequency of injection being diminished. Occasionally cases will be found where a discharge persists, in which the specific germ cannot be found. In such cases I employ an astringent injection alternately with argonin, or even to its exclusion. Response to this method is usually very prompt.

It is not my purpose at this time to consider posterior urethritis. Could we feel sure that the cases of anterior urethritis were cured we would have little reason to concern ourselves over any other variety, and I am convinced that they can be cured as often as we can control the patient. The patient is the worst obstacle to the ideal method of treatment. If he is getting along nicely and improving rapidly, he fails to appreciate the situation. He will take a bicycle or horseback ride, or will drink and upset our plans and spoil our statistics by doing so. In fact, the list of cases in which I have given argonin a fair trial is considerably abbreviated by the impossibility of controlling many patients. No matter what method of treatment is employed it is necessary to cut off all alcoholic drinks, to insist on continence and on a good judgment and moderation in diet and exercise.

Since the first of the year I have treated twelve cases of acute anterior urethritis of an unquestionable specific nature with argonin, and in each case the recovery was prompt and without complication. I have also had nearly a like number of cases in which I have endeavored to pursue the same plan and would have succeeded but for the patient. In these cases epididymitis, prostatitis and posterior involvement were features, but they can in no sense be attributed to the treatment, for in each instance I located the real cause before I considered the treatment blameless.

In the twelve cases the treatment was almost identical with that I have outlined above, and because there was so little variation I will submit the following summary of results, which will tell the story quite as well as would taking each case up in detail.

Of the twelve, six came to within a week of the beginning of the trouble, two coming to the office on the first day. The others had been afflicted for from one to three weeks. Five confessed to previous attacks of gonorrhea, but the nature of the present attack being distinctly acute, and an anterior affection precluded the possibility of any connection between itself and the past.

The important point is the disappearance of gonococci and an end of all treatment. In one case no gonococci were found after the second day's treatment. In two cases no gonococci were found after the fourth day. In four cases the gonococci disappeared after the seventh day, in three, after the 9th day, and in the last two they persisted until the twelfth and fifteenth day respectively.

In each case treatment was continued with argonin, or argonin and an astringent injection, until the urethra recovered its normal tone. In no case was the continuation of treatment necessary beyond three weeks—as a rule a week or ten days after the disappearance of the gonococci seemed to effect an entire cure.

Regard for the general welfare prompted me to keep the patients longer under observation, and in no instance has there been a return of the trouble.

These are the results which I have been unable to secure with other treatment and, considering the fact that there was an absolute absence of irritation from the treatment in most cases (and in all it was inconsequential,) it is one that I shall use farther. In so far as the control of pain already existing is concerned, no complaints were made after the third day with one exception, and that was in a case where I found an extremely hypersensitive urethra. That it was cured without complications is a matter of wonder to me.

Though my list of cases is a short one, and I appreciate that it is hardly long enough to establish a remedy, still, taken in connection with the work reported by others, it is one that has convinced me of the merits of argonin. Allowing for the usefulness of hydrogen dioxide as an antiseptic, we still have plenty for the anti-gonorrheic to do, and in this capacity argonin seems an entire success.

Century Building, St. Louis, Mo.

JOINT AFFECTIONS IN GONORRHEA.

B. G. Moynihan (Lancet, November 18, 1899,) in a clinical lecture describes the various forms of joint disease connected with gonorrhea. He adopts Konig's classification of four varieties: (1) hydrops; (2) sero-fibrinous; (3) empyema; (4) phlegmonous. Attention is drawn to the chronic course which is run by most cases and to the severity of pain compared to intensity of local inflammation. A typical case of each variety is described as follows:

1. Hydrops is the least severe form. A patient with (usually) a slight attack of gonorrhoea chances to observe that his knee is swollen. There is no fever, no ill-health, little or no pain or tenderness, merely an increase in the circumference of the joint. The capsule is not thickened, and there are no inflammatory changes noticeable in the skin. The effusion generally disappears quickly, and the function of the joint is not permanently disabled. Recovery is usually only a matter of a few weeks. The author says that this variety has been observed only in the knee-joint.

2 and 3. The sero-fibrinous form and empyema are advanced and more intense forms of in-

flammation. The joint in hydrops contains a thin, almost clear, pale, yellowish-green, limped effusion. In the sero-fibrinous form the fluid becomes thicker, more viscous, and turbid. In the fluid are shreds and cloud-like masses of fleecy lymph. Turpidity increases, and finally pus is formed. Tallying with these pathological changes are corresponding alterations in the clinical symptoms. The capsule of the joint becomes thickened and swollen. The temperature of the joint is raised, manipulation and swelling and redness are strikingly apparent. The massive deposit of lymph may cause eventually some adhesion in the joint, and then a more or less firm and permanent ankylosis results. The general health of the patient does not, as a rule, suffer very seriously.

4. The phlegmonous form is the most serious. Effusion is small in quantity, and varies from densely turbid serum to pus. Fluid as such may even be absent, the joint being filled with jelly-like masses of fibrin. The important points, pathologically, are the fierce intensity of inflammation and the extension of the process beyond the limits of the joint capsule. As a result of this extension the capsule and its surroundings are fused and soldered into one turgid inflammatory mass. The skin is red, tense, shining, and œdematous. The contour of the joint fades gradually away. The symptoms are exquisitely defined. Pain is agonizing, even to torture; the tenderness is excruciating, even the pressure of the bedclothes cannot be borne, and the mere suggestion of movement is intolerable. Muscular wasting is unusually rapid and severe. The disorganization of the joint may become riotous, and within two or three weeks dislocation may occur. When the process subsides the massive flakes of lymph become organized into adhesions which hamper or prevent the movements of the joint. In the knee-joint there is a striking tendency for the patella to fuse with the lower end of the femur. The rapidity and completeness with which this ankylosis can occur in gonorrheal arthritis is quite characteristic. In this form, in spite of appearances, abscess formation is most unusual. The severity of the symptoms and the extent and intensity of the pathological processes are liable to considerable variation. It is not uncommon for the acute condition gradually to subside and to merge into an exceedingly chronic condition.

It is not unusual for the joint affections of gonorrhea to appear in some such manner as this; several joints are—simultaneously or almost so—affected with aching, boring pains, and difficulty of movement with slight limitation. No obvious physical change is anywhere present. These "flying" pains, irregular in appearance, sudden in onset, and seemingly capricious and irresponsible, vanish, and one joint becomes then more acutely affected with one of the varieties of inflammation above described. In the latter stages of gonorrhea when the "gleet" stage has been reached and the discharge is almost gone, there may be any of the joint affections peculiar to gonorrhea. But in this stage it is most usual to find two or more joints affected with, in each, a different intensity of the inflammatory process. The disease is, in fact, polymorphus. One joint may be in a condition of hydrops, another may be affected with the plegmonous form of inflammation, and so on. It is worthy of note that it is especially in this later stage of gonorrhea that inflammations of the serous membranes, e. g., pericarditis, pleurisy, etc., are liable to develop. As a general rule, however, the joint affections at this time are of a mixed type, but are long protracted.

As regards treatment, Moynihan advises rest at first, but, owing to the great tendency to ankylosis, the rest must not be too prolonged. Internally he has had good results from mercury and the iodides. If the joint is very tense and the pain acute, relief is obtained by incision and antiseptic flushing.

An examination of reported cases shows that the lower extremity is affected about twice as often as the upper. The knee is most often attacked, then the hip and elbow. In twenty-seven cases in which the fluid was examined gonococci were only found in eight; hence the infection is probably a mixed one.—Treatment.

VULVO-VAGINAL CATARRH.

By Dr. Francis Huber. Pediatrics, VIII, No. 11.

The author mentions the existence of the catarrhal form of this disease, but devotes the consideration of his article almost wholly to the gonorrheal variety. If any difficulty is experienced in the diagnosis, the microscope will determine the presence or absence of the characteristic gonococcus.

The treatment is very fully discussed. Primarily, the patient should be isolated, especially in large institutions. The quarantine should continue until the mocroscope fails to show the characteristic organisms. In the very early stages, with marked inflammatory symptoms, absolute rest is essential and cold applications to the hypogastrium are required. The urine should always be rendered alkaline; light diet allowed and the bodily functions kept in order. As the urethra is usually involved, oil of sandalwood should be given internally. Local treatment consisting of irrigation is especially insisted upon, but in order to be efficacious careful attention to details is required. If the urethra and vaginal orifice are markedly inflammed and the pain excessive, cocaine is allowable. Warm sitz baths are recommended for ardor, urinæ and vesical tenesmus.

Irrigation should commence early. A small catheter should be attached to a fountain syringe suspended about two feet above the hips, the external parts thoroughly irrigated first, then the catheter passed about two inches into the vagina, and the injection very slowly made. After irrigation the parts should be dusted with boric acid and oxide of zinc, and a pad of absorbant cotton or gauze applied.

For the solution to be used, the author advises particularly permanganate of potassium (1-4000 to 1-1000) or nitrate of silver (1-2000 and later 1-1000). Sulpho-carbolate of zinc or weak solutions of carbolic acid may also be tried. Mercurial bichloride is not recommended.

Comparatively large quantities of the irrigation are required; from a pint to a quart. At the beginning, two injections should be made daily, subsequently one a day, and finally two or three a week.

The dressing should be burnt on account of the danger of transmitting the infection to others.

In conclusion, the author insists, particularly upon the use of the microscope in all cases; if the cocci are found, treatment should be begun early and continued as long as the organisms persist in the discharge. The possibility of infection from above should always be borne in mind. Various complications should be treated on general principles.—Post-Graduate.

ENLARGEMENT OF THE PROSTATE—TREATMENT AND CURE.

C. Mansell Moullin, in his new book, acknowledges that none of the explanations at present given of the cause of enlarged prostate are entirely satisfactory, and though he is unable to offer any perfect solution of the problem he is inclined to think that it is connected with the influence exerted by the testes on the growth and nutrition of the accessory organs, such as the prostate and vesicular seminales. As to the mode of connection between these structures he does not express any decided opinion, but thinks it may be nervous in nature or the effect of an unknown chemical substance secreted by the testicle. The author quotes an important case which he recorded in the Lancet in 1896. The man, who was a monorchid almost from birth, for one testis had been destroyed at a very early age, suffered from a median enlargement of the prostate which caused serious obstruction to the outflow of urine. In the chapter on the Treatment of Prostatic Enlargement by Removal of the Testes we note that Moullin has replaced the word "castration," which was used in the first edition by the term "orchidectomy." He speaks very definitely of the diminution in size of the prostate, which followed in every one of his cases in which both testes were removed, and in the majority of the cases the bladder was able to empty itself fairly completely. In two only has there been little or no change for the better in this respect. The mortality has up to the present been two out of 17 cases; neither of these deaths however, seemed to be directly dependent on the operation. The author has never met with any of the severe mental disturbances which have been observed by other surgeons to follow this operation. The incision advised is placed over the external abdominal ring, where it is far easier to keep the wound aseptic than if made in the scrotum. Unilateral orchidectomy may reasonably be tried in cases in which one lateral lobe is much larger than the other, but it will almost certainly have to be followed by removal of the other testis. Ligature of the vas deferens is, in Moullin's opinion, much less satisfactory than orchidectomy, but it may be used in cases where the patient refuses to submit to the major operation, and also in cases where a general anæsthetic is not desirable, for it may be performed under the influence of cocaine.—New York Lancet.

SEVERAL VALUABLE REMEDIES FOR GONORRHEA.

One of the best books for the general use of practitioners is "Materia Medica and Therapeutics," by Bartholow, published by D. Appleton & Co. It covers all subjects. The following remarks on the several pages indicated are given as appropriate to the subject that is well covered in this issue of The Dial:

"As a topical application in gonorrhea after the acute symptoms have subsided, in mucous cervicitis, in leucorrhoea, the styptic preparations of iron are certainly useful, but a strong objection to their use arises from the staining of the clothing."—Page 153.

"The wine of colchicum-seed has frequently succeeded in curing gonorrhea, and by Brodie a nightly dose of thirty minims was given for the relief of the chordee. In the treatment of gonorrhea, the following may be used: Recipe—Vini colchici seminis, half oz.; sol. potassi citratis, 6 oz.; tinct. opie deod., 2 dr. M. Sig.; A teaspoonful three or four times a day in gonorrhea."—page 354.

"As a matter of curious therapeutics, it may be mentioned that gonorrhea has been successfully treated by having the patient inhale the vapor of turpentine in an apartment filled with it."—Page 781.

"Gonorrhea is the disease to which copaiba is most especially adapted. Its administration should not be begun, however, until after the acuter symptoms have subsided. As the action of the remedy is local or direct, acute symptoms are rather aggravated by it. Combination with liquor potassae promotes its curative action by diminshing the acidity and hence the irritation produced by the urine. Combination with agents acting synergistically, as oils of cubebs and sandal wood is also desirable. The following formulae exemplify these therapeutical facts. ℞ Copaibae, pulv. cubebae, aa ℥ij; aluminis, ʒj., Copaibae, pulv. cubebac, aa ℥ij; aluminis, ʒj.; opii, gr. v. M. Sig: One to two drachms, night and morning. ℞ Ol. copaibae, ol. cubebae, ol. santal flav., aaʒj; magnesiae, ʒij. M. Ft. pil. no. lx. Sig: Two pills every four hours."—Page 784.

"The most important application of cubeb is in the treatment of gonorrhea. Unlike copaiba, it may be administered with good effect during the acute stage. The best results are obtained from a mixture of the two agents."—Page 786.

"The oil of juniper acts similarly to, and is indicated under the same conditions as, turpentine in chronic pyelitis, chronic cystitis, gleet, prostorrhea, etc. Diuretic effects may be obtained by inhalation of the vapor of the oil. For this purpose a few drops may be put into hot water, and the vapor be inhaled."—Page 789.

"Gleet and postorrhea are benefitted by cantharides when these maladies occur in subjects of a relaxed fibre, with feeble circulation. Ringer makes the extraordinary statement that one drop of the tincture given three times a day will prevent chordee."—Page 799.

"Blisters are as a rule, inadmissable in acute affections of the kidneys and bladder. A succession of blisters to the perinaeum is unquestionably serviceable in chronic prostatitis and in gleet."—Page 807.

"In gonorrhea hydrogen dioxide is an excellent injection, destroying the gonococcus and arresting the formation of pus. According to the severity of the symptoms, it may be used in the strength of the official solution or diluted one-half or one-fourth."—Page 369.

PATHOLOGY AND THERAPEUSIS OF UTERINE GONORRHEA.

By Dr. Heinrich Schultz (La Revue Medicale, Nov. 29, 1899.

Neisser calls attention to the fact that although the treatment of gonorrhea in the male has made vast strides in recent years, the treatment of this affection in the female has made little progress. Many gynecologists consider cervico-uterin gonorrhea as incurable. This is exaggerated. Every purulent cervical discharge is not gonorrheal. Again, even transparent secretions may show the presence of the gonococcus. In the absence of the latter a discharge may be regarded as non-contagious. Uterine gonorrhea can only be diagnosticated when the cervical discharge contains gonococci.

In 200 sick prostitutes the secretions were purulent in 108 cases, transparent in 10, and more or less turbid in the remainder. Uterine gonorrhea was found in 76 cases, with purulent secretions in 45, transparent secretions in 4, and turbid secretions in 27. Gonococci were discovered in 50 to 60 per cent of the cases. Microscopical examination is of prime importance in the diagnosis. In about 38 per cent of the cases cervical gonorrhea extends upwards into the uterine cavity. Most cases of gonorrhea occur in young prostitutes; also adnexal gonorrhea.

Schulz makes twice weekly intra-cervical or intra-uterine injections with 4 per cent sol. of protargol, with pyroligneous acid, with 5 to 10 per cent nitrate of silver solution, or with 10 per cent solution of argentamin. Only the first injections are apt to be followed by painful reaction. Of 2,000 injections made in 200 women it was necessary to suspend the treatment in 10 cases because of pain. In 2 cases periuretritis with exudate resulted but passed away in several weeks. After 9 injections with 5 to 10 per cent nitrate of silver or argentamin (up to 10 per cent) the majority of cures have followed. The nitrate of silver sometimes provokes metrorrhagia or painful reaction; hence the author prefers argentamin in 10 per cent solution.—Post-Graduate.

BLENNORRHAGIA

Has received from Vogl, of Munich, critical study as to the results obtained from its modern treatment in the military hospital of Munich, since 1882, leaving out of consideration all but specific treatments.

In 1893 patients were treated by Neisser's method and given injections of silver nitrate 1-5000. In 1894 potassium permanganate, 1-4000: sodium sulphophenate, 1-180; and later silver nitrate 1-3000, were used. In 1897, protargol was the remedy.

Before the employment of these remedies the average duration of treatment was 45 days; since their introduction, 45 to 47 days. In 1896-1897, Neisser employed various silver salts and lowered the average by five days, but in 20 of the cases there was recurrence. In 1898, when the nitrate, the permanangnate, and protargol were all used the average was reduced to 42 days, but there were 7 cases of recurrence. At best, reduction averaged but 5 days.—Mericks' Archives.

EFFECT OF REPEATED COITUS ON THE SEMINAL FLUID.

Victor G. Vecki, in his book on the "Pathology and Treatment of Sexual Impotence" (Philadelphia: W. B. Saunders), puts forward certain statements under the physiology of the sexual act, which have roused quite a commotion in the ranks of German oldfogydom. He rejects the ordnary views as to the infrequency and insufficient vitality of spermatozoa after repeated coitus. A series of microscopic observations have shown him that in vigorous, healthy men coitus, after weeks of abstention from the act, is not accompanied by the ejaculation of seminal fluid teeming, as has been said, with abundant and lively spermatozoa, but that, on the contrary they are comparatively rare. Many show no manifestation of life, and others are by no means active. Repeated coitus is followed by an abundance of young, very active spermatozoa.

Observations on the fluid of seminal emissions, though often made within an hour after the event, rarely showed many spermatozoa, and the few present were, as a rule, not especially active. Spermatozoa seem to degenerate while in the seminal vesicles, and it is only after these are emptied that really active germinal particles are to be found in the seminal fluid. The importance of this for certain forms of sterility is evident. This theory, too, gives a new biological significance to nocturnal emissions that occur normally in the continent. Nature is getting rid of germinal material that is no longer in proper condition to fulfill its function perfectly not merely wasting, as has been taught, precious reproductive elements.—Medical Times.

URETHROSCOPIC DIAGNOSIS.

By Ferd C. Valentine, M.D., New York.

In a paper presented to the Am. Medical Association the author deprecates attempting to treat diseases of the urethra without ocular inspection, and attributes the large number of chronic sufferings to the fact that hitherto no cheap, easily managed urethroscope had been devised. He demonstrated a new instrument devised by him to cover these needs.

The urethroscope devised by the author of this paper, is essentially a set of urethral tubes of the necessary calibres, a dry-cell battery for light, a light carrier, and a megaloscope to magnify the urethra sixteen diameters. The light is encapsulated, so that it gives no heat when inserted into the urethra—all parts of which are illuminated as distinctly as if they were exposed to direct sunlight. All operations within the anterior and posterior urethra, from finding the opening of fine devious strictures, the removal of growths, can be done under guidance of the eye.—Modern Medical Science.

GONORRHEA.

The Medical News for January 13th has the opening part of Neisser's article on gonorrhea, its dangers to society.

The author first shows the widespread character of the disease in all civilized countries. 15.8 per cent of the German army have gonorrhea, 32 per cent of the Austrian, 21 per cent of the Belgian, and 27 per cent of the French.

Gonorrhea is a serious and often dangerous disease, because it does not remain limited to the primary focus of infection but progressively invades other parts.

Once the infection has gained a foothold in the uterine mucosa there is scarcely any medical treatment of any service.

The affection does not limit itself to the superficial mucous membrane, but through the toxic products produces effects at a distance from the original focus.

The gonococci may force their way into the connective tissue and find entrance into the lymph and blood currents producing arthritic affections, affection of glands and tendon sheaths, serious disease of the heart and blood vessels, and systemic intoxication. Gonorrhea may occur in the conjunctiva, rectum and mouth.—Charlotte Medical Journal.

PROTARGOL

Has been, recommended by Kopp as an efficient and safe prophylatic against gonorrhea, but it has been open to the objection of its sparing solubility in water. The same author now publishes a new method of preparation which overcomes the difficulty and makes universal application of the remedy possible. The protargol is to be triturated with an equal weight of glycerine and then enough luke-warm water added to make a 20 per cent solution. A few drops of this solution instilled into the fossa navicularis after a suspected coitus makes an efficient safeguard against infection without any unpleasant irritation of the urethral mucous membrane.—Merck's Archives.

THE ABORTIVE TREATMENT OF GONORRHEA.

Hutchinson, in his Archives of Surgery for October, says that a two-grain-to-the-ounce solution of chloride of zinc will certainly cure a case of gonorrhea in a short while and without danger.

He thinks the use of injections prevents orchitis rather than causes it.

His plan is to instruct the patient to first void his urine, then inject with warm water, let it run out and then use the solution.

This abortive treatment also tends to prevent gonorrheal rheumatism.

In addition to the chloride of zinc injection he gives all his cases purgatives and the bromide of potassium and insists upon a light diet.

GONORRHEA IN WOMEN.

Clark, in the American Journal of the Medical Sciences for January, makes a critical summary of recent literature on this subject, though his study appears to have been confined exclusively to the writings of Bumm of Basel.

He considers Neisser and Bumm the epoch makers among the investigators of this disease.

The varying virulence of the gonococci is dwelt upon, though this peculiarity is shared by other germs and is perhaps more dependent on environment than character.

Noeggerath states that this disease is, as a rule, a life time affliction in woman, but Bumm says not.

The pathological anatomy is most logically and vividly described by Bumm.

He says that the disease is confined to the epithelial layer, Wertheim and Madlener to the contrary notwithstanding.

Bumm also states that the peritoneum is a very poor culture ground for the gonococci and that a venereal peritonitis cannot occur from this source, though the cases reported by Cushing show that the gonococcus was the primary cause of a general peritonitis. The clinical course, diagnosis, prognosis, and treatment, according to Bumm, will be continued in the next number of the Journal.—Charlotte Medical Journal.

THE OPERATIVE TREATMENT OF URETHRAL STRICTURE.

A satisfactory result of a stricture operation depends on an exact determination of the location of the stricture; the extent, quality and caliber of the constriction; accurate cutting and proper after treatment, says Kreissl in the Chicago Clinic for December.

He considers the bougie a boule, which is provided with a scale on its shaft, the proper instrument for determining a stricture.

The author uses a "localizer" which shows whether the stricture is anterior or posterior, or annular, and in this way we cut the stricture and not healthy tissue.

He says that internal urethrotomy is not indicated in callous strictures, especially not in those of 1½ centimetres or over in length. The infiltrated areas surrounding the strictures should be reduced by sounds or electrolysis with a weak current, before urethrotomy is done, to avoid hemorrhage and urethral fever.

He recommends the Otis urethrotome for internal work, which is only practical for the anterior eight or nine centimetres of the urethra. —Charlotte Medical Journal.

GONORRHEA AND VULVO-VAGINITIS IN CHILDREN.

Dr. Nosotti (British Med. Journal, Sept. 30, 1899,) speaks well of protargol in the treatment of gonorrhea at all stages. The solutions used varied from ½ per cent in the early days to 2 per cent in the later stages. No ill-effects were noticed, no epididymitis or other secondary inflammation. It was more satisfactory as an injection than permanganate of potash. It was found very useful in the vulvo-vaginitis of children. Protargol causes a free elimination of epithelial and pus cells of gonococci from the urethral mucous membrane.

THE BACTERIOLOGY OF GONORRHEA.

Pothier, in the New Orleans Medical and Surgical Journal for January, reviews the bacteriology of Gonorrhea.

The organism was discovered in gonorrheal pus by Neisser in 1870.

They are micrococci, usually joined in pairs or in groups of four and are biscuit shaped.

His method of staining is with Loeffler's solution for 12 to 20 seconds, wash and dry, then stain in 12 per cent solution of eosin in 50 per cent alcohol.

The gonococci do not stain by Gram's method, and they are found within the pus cells. They develop best at a temperature of 36 C.

They are pathogenic to man alone, but the toxin produces some reaction in animals. As the result of experiments he concludes that the gonococcus is the specific cause of gonorrhea, that they produce a virulent toxin, and that the effect of this toxin on the tissues may produce changes in them allowing access of other septic organisms which may become more dangerous after the action of the toxin.—Charlotte Medical Journal.

SIXTEEN YEARS' EXPERIENCE WITH GONORRHEA.

Vogl, in the Münch. Med. Woch., summarizes the experience in the military hospitals with gonorrhea. The old method of general treatment, hygiene, dietetics, rest, milk, cold applications, etc., required an average of 45 days. Niessen, 1896-7, used silver salts as injections, treatment occupying 40 days, but with some cases discharged uncured. 1897-8, silver nitrate, potassium permanganate and protargol were successively used, with a duration of 42 days, but a few were discharged uncured. Various remedies were tried and discarded, for one reason or another—hydrochinon, iodoform, thallin, zinc salts, sozoidol.—American Therapist.

URETHRAL EXPLORATION.

Valentine, in the International Journal of Surgery for January, says that the improper entrance of a rigid explorer may injure the urethra gravely and may mislead the operator.

He advises against the ordinary method of placing the instrument parallel to the inguinal fold, as it causes torsion and complication.

The explorer should be held across the patient's right thigh in an imaginary line that prolongs Poupart's ligament.

We should remember that the fossa stands at an angle to the urethra and that the explorer's tip should be guided along the floor of the urethra and not its roof . The urethra must be drawn over the instrument as it is forced forward.

The tip must not be moved from the posterior orifice. If the instrument turns on its axis it has entered on a wrong course.

Force must never be employed.

When traversing the posterior urethra the instrument should be guided along the roof. In prostatic enlargement urethral exploration is not easy. In such cases make forcible pressure of the prepubic soft tissues downward with a guiding finger in the rectum.—Charlotte Medical Journal.

PROSTATITIS:

Ichthyol, 5 to 12 min.
Extract Balladonna, ¼ grn.
Cacao Butter to make 1 suppository.

Use two or three such suppositories daily.—N. Y. Med. Journal.

Tinct. Cantharides, 16 min.
Simple Syrup, 4 fl. dr.
Distilled Water, 12 fl. dr.

Teaspoonful every four hours during actual inflammation.—Ringer, N. Eng. Med. Monthly.

Iodoform, 30 grn.
Cacao Butter and Yellow Wax, to make 5 suppositories.

Use two per day in chronic enlargement.—Moretin, N. Eng. Med. Monthly.

INJECTION FOR GONORRHEA IN WOMEN.

Lutaud (cited in the Journal de Med. de Paris) employs the following formula:

℞	Alum, gr	450
	Borax, gr	450
	Quinine sulphate, gr	15
	Carbolic acid, gtt	30.
	Ess. of thyme gtt	30.
	Glycerin, gr	3,000

M. Sig.—A tablespoonful in a pint of warm water to be used as a vaginal injection two or three times a day.—Louisville Med. Monthly.

A PLASTER FOR LUPUS OF THE VULVA.

The Riforma medica for December 9th gives this formula:

℞	Olive oil	8
	Rosin	8
	Yellow wax	8
	Gum ammoniac	1
	Venice turpentine	1
	Pyrogallic acid	4

M.—N. Y. Medical Journal.

TREATMENT OF LAGRIPPE.

The discovery of bacillus by Pfeiffer as the supposed specific cause of influenza has not been followed by the discovery of a special remedy, either for its destruction or for reliably counteracting its effects upon the human system. Consequently we must be guided in our choice of remedies by the prominent functional disturbances presented in each case. These are generally diminished eliminations from the skin and kidneys; congestion of the mucous membranes, especially of the nasal and respiratory passages and severe pain and soreness and pains throughout the nervous and muscular structures of the body. To allay the pains and soreness and restore more active eliminations from the skin, kndneys and intestines are the rational indications to guide us in the choice of remedies. If called in the early stage of the disease, in all the milder cases a single powder containing from 15 to 18 grains of Dover's powder, 3 grains of calomel, and 3 grains of pulverized gum-camphor, given at bedtime and followed in the morning by a saline laxative sufficient to produce two or three intestinal evacuations has very generally relieved all the important symptoms; and by giving 3 grains of quinine sulphate three times a day for three or four days the convalescence has been complete.

In the more sever cases, instead of one powder at bedtime, the same should be given every four hours until four have been taken, then move the bowels with the laxative and follow with moderate doses of quinine, alternated with 5-grain doses of sodium salicylate, until all the active symptoms have disappeared. When the bronchial symptoms have been persistent, with soreness in the chest, instead of the sodium salicylate I have given, with very good results, a teaspoonful of the following mixture every four or six hours until the chest symptoms were relieved:—

℞ Hydrochlorate of ammonia, 3½ drachms,
Ant. et potass. tart., 2 grains,
Mercuric bichloride, 2 grains,
Morph. sulph., 3 grains,
Syr. of licorice, 5 ounces.—M.

When the influenza has at the beginning, so much irritation of the gastric and intestinal mucous membrane that the powders of Dover's powder and camphor cannot be retained, I have given instead 4½-grain doses of salol aided by 1½ or 3 grains of calomel at night for the first two days with entirely satisfactory results. Then smaller doses of the salol, alternated with very moderate doses of quinine, has been all the medication necessary to complete the recovery of the patient. In all cases, during the active stages the patient has been kept at rest, and as far as practicable in a well-ventilated, warm, but not over-heated room.

In only a very few instances has the fever temperature reached over 104° F., and when it did it was readily reduced by free sponging of the surface or a few doeses of aconite or veratrum viride. The diet should be light and carefully adjusted to the ability of the digestive organs to receive and appropriate it. When pneumonia or any other complicating disease supervenes, for which the practitioner should always be on the alert, it should be treated promptly and on the same principals as would govern its treatment under other circumstances.—Nathan S. Davis. Chicago, in Sajous' Annual and Analytical Cyclopedia of Practical Medicine. Volume

Original Articles.

*REMARKS ON JOINT-DISEASES.

By Knut Hoegh, M. D., Prof. of the Principles of Surgery and of Clinical Surgery in Hamline University, Minneapolis.

(Continued from last issue.)

After this article, that was intended for a previous meeting, was prepared, I have met with two cases in which I think I have discovered the signs of tuberculous spondylitis, while the patients have been treated, the one for sciatica, and the other for some dyspeptic disorder. What called my attention to the true nature of the first case, that came complaining of pain in the heel, a pain, by the way, that could be traced along the course of the nerves on the whole posterior and external aspect of the extremity, was the tonic spasm of the erector spinæ muscle on the affected side. Digital pressure elicited tenderness on the third lumbar vertebra; rest in bed had a marked influence upon the sciatic pain; the injection of tuberculin produced a transient elevation of temperature. But there was no stiffness in bending, no kyphosis, and the patient was the very picture of good nutrition. The other case attracted my attention by the peculiar formation of the body. When he stood upright, a horizontal crease in the abdominal wall, on a level with the navel, was seen, which means, as is well known, a certain degree of spinal deformity, usually lordosis. Upon inspecting the back, I found a slight prominence of one of the lower dorsal vertebræ, a slight backward tilting of the pelvis and atrophy of the buttocks. Many years ago this man had consulted me for sciatica, first in one leg and then in the other. His most prominent symptom now was pain in the pit of the stomach. These pains were not connected with ingestion of food; chemical examination of the stomach contents showed a small amount of muriatic acid and abundance of lactic acid. I look upon these evidences of impaired digestion as concomitant symptoms of the tuberculous infection which had its chief seat in the dorsal portion of the spinal column.

Tuberculosis of the ankle joint gives, in my opinion the poorest prognosis; in fact, I do not believe that I recall a single case of an adult where the disease was finally and permanently cured. Not quite so bad is the prognosis in children, where I have one case, at least, where resection saved the limb.

Next to the ankle, the wrist gives the poorest prognosis. While amputation seems to be the final outcome in the ankle, at least in the adult, I have preserved some hands by resection of the wrist joint. A girl, on whom I performed Lister's resection, twenty years ago, and who retained her hand, certainly in a maimed condition, has ever since been able to earn her living as a servant girl.

Resection in the elbow usually leads to a stiff joint, but if that is at the proper angle the limb remains useful; worse is it if a so-called flail-joint is the result of the operation.

In tuberculosis of the knee, resection is not so popular a remedy as formerly. Mechanical treatment leads often, even in bad cases, to a fair result.

Resection of the hip in adults is usually of poor prognosis; in children and youths the operation has scored many victories.

There is one joint where I believe that the disease is often overlooked, and the suffering ascribed to other conditions, and that is the ilio-sacral joint. I should like to ask the members of the society how often they make the diagnosis of inflammation of this joint; my impression is, that it is rarely diagnosticated, but that its presence is not very uncommon. I have two cases here in the city, that were treated for rheumatism, sciatica, or hip-joint disease, but I have established, at least to my own satisfaction, that there was tuberculosis of this joint. A misleading feature of this disease is that sciatica is often present as a complication. In fact my first case impressed me as one of sciatica, and it was only the subsequent history of the case that taught me the real condition.

It is outside of my plan to enter particularly into the treatment of joint tuberculosis, but a few general remarks may be appropriate. In the first place the practitioner must remember that these diseases are extremely chronic in their course; if the patient is not, from the very moment the diagnosis is made, informed that the treatment must be continued very long, not for months but for years, he will not retain confidence in his physician; no matter how satisfactory the progress may seem to the expert who knows how long a time in must take before the disease is brought to a standstill, the uninformed patient will rebel, when he sees, for instance, that his inflamed knee is not well after three months in a plaster cast. I must express my disapproval of the common practice of treating tuberculous joints with local derivatives, such as tincture of iodine, various liniments, blisters, etc. In my opinion all these applications are useless, and as they give the patient needless pain, expense, and labor, they should be condemned. It is possible that the systematic use of ice, occasionally, does good, but I have never used it myself, as I immediately advise more effective treatment. Without going into details, it must be enough to state that the principle of the non-operative treatment of tuberculous joints is to place the joint at absolute rest, and to take all weight away from it. The many ways in which this may be accom-

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*Read at the meeting of the Hennepin County Medical Society, January 8, 1900.

plished shall only be briefly indicated. The fixed bandages of plaster Paris, leather, wooden splints, corsets, extension by weight and pulleys, especially devised beds, etc., are the most common appliances. An objection is often made by the practitioner to the long continued fixation of the joints; it is alleged that it leads to ankylosis. This is also often urged by the thoughtful patient. The answer is a two-fold one, and is perfectly decisive. In a good many cases we would be glad if we could obtain a solid ankylosis; that would alleviate the pains, the fever, the consumption of the vital forces, even at the expense of a stiff joint. For a stiff joint is by no means the equivalent of a useless limb, and is far better than a wooden one; if the joint is made stiff in a proper position, the patient retains a useful limb. Furthermore, experience proves that there is no better way of overcoming the disease and of retaining as much motion as the circumstances of the case allow, than to confine the limb in an absolutely quiet position. Some confusion has arisen, owing to the fact that the patient, after a long confinement of the joint, experiences considerable stiffness when he tries to move it; this is not owing to a shrinkage of the capsule or bony ankylosis, but to the atrophy of the muscles owing to their long inactivity and to the temporary loss of elasticity of the ligaments.

In these days of professional rubbers, it is to be expected that a great many cases of tuberculosis of the joints are subjected to the various forms of massage. Now, very useful as massage is in some of joint diease, about which I shall speak later, I must warn against its indiscriminate use in tuberculous diseases. The tuberculous focus should be left undisturbed if it has become incapsulated and quiescent; the only benefit to be derived from massage will consist in limbering up the muscles and giving them improved nutrition. The structures of the joint must not be disturbed. From this follows that I am opposed to the forcible breaking up of ankylosed tuberculous joints, a procedure that more than once has lead to a violent recrudescence of the tuberculous process, to dissemination of general tuberculosis, in other words has been followed by amputation in some cases, and death in others.

Distortions or sprains stand in a certain relation to tuberculosis as this last disease is often thought to follow such accidents. From our modern ideas of tuberculosis it appears that the sprain itself cannot be the cause of tuberculosis, for the last named condition means an infection with tubercle bacilli. The true explanation must be one that establishes the preference of settlement by circulating tubercle bacilli in the pathological products of a sprain. We must suppose that these bacilli often circulate in the blood, that they usually perish in it, and only get a chance to develop under circumstances that are favorable to their growth. There are many facts that point to the prevelance of tubercular infection of the blood. I shall only mention the circumstance, that Indians brought in contact with the whites, as a rule, succumb to tuberculosis in spite of all precautions; as they do not have it when they live in their original savage state, they must get it from the whites; as the whites do not show anything like the proportion of tuberculous infections as the Indians do under these circumstances the bacilli must have some difficulty in effecting a systematic infection of their bodies, in other words the whites must have a higher resisting power. We know the readiness with which the bacilli grow in extravasated blood, and that every sprain necessarily entails rupture of blood-vessels, sometimes in bone, sometimes in the synovial and fibrous tissue about a joint. We can thus see how this hematogenous infection is brought about. As I shall show below, this gives us a practical hint as to the proper treatment of sprains and thus satisfies that utilitarian spirit that so often blindly condemns scientific hypotheses as being of only academic value. What takes place in a sprain? Joint surfaces are temporarily torn from each other to such an extent that the bands that hold them together are severed, the synovial membrane stretched and even bony ends contused. In this process a number of smaller or greater vessels must necessarily be torn, blood or lymph escapes and at the same time the synovial membrane responds to the insult by an increased secretion. The joint is therefore soon filled with a bloody serum, and extravasated blood is found in many places in the paraarticular tissues. This blood is dead, and coagulates, and in the coagulum creep in new cells from the proliferating autochronic cells, that using the dead coagulum as a sort of scaffolding soon permeate the joint and its surrounding parts with a frame-work of connective tissue, which, under certain circumstances, proliferate abundantly and tend to shrinking of the synovial membrane, adhesions, rigidity of neighboring fibrous tissues, in short to ankylosis which may be fibrous, but often even osseous. In milder cases where anklylosis is avoided the distended and physiologically altered sac remains flabby, and goes on secreting a pathologically increased synovia while the aponeuroses, the fascial, and the fibrous capsule remain thickened and loose their elasticity. The joint remains weak and subject to new sprains on the slightest occasion, if it escapes ankylosis and tuberculous infection. But we do not find that the torn ligaments refuse to heal.

Owing to defective knowledge of the dangers that are apt to follow the lesion in view, the old treatment was to secure rest for the joint with the object of enabling the torn parts to heal, an event that usually takes place spontaneously. It consisted in putting the joint up in immobilizing splints, in the application of ice as a so-called antiphlogistic measure, or in the application of external heat, sometimes followed by a cold douche, and finally by the application of a circular bandage. This is indeed a very rational way of obtaining speedy union of the torn parts but it is unnecèssary, as nature provides for the union of the torn part with sufficient speed and completeness. This treatment looses sight entirely of the much more important object of, as speedily as possible, to remove the extravasation. This is done by the very opposite treatment, the systematic rubbing and kneading and the speediest possible return to the physiological activity of the joint. Here you ought to call in your expert rubber, if you please, the masseur and the osteopath, if you do not wish yourself to give the necessary manipulation. Rub, knead perform passive movements, that is the proper treatment of these cases. It is unnecessary to remark that your massage must be on scientific principles, that you ought to manipulate in such a way that you assist absorption in the best possible way; that you must not give your patient unnecessary pain, and that you are sure of your diagnosis. For in many cases you may mistake a fracture in or near the joint for a simple sprain, and this condition of course modifies your treatment.

To give you an illustration from my own experience of the dangers of treating a sprain with an immobilizing bandage, I shall mention the case of a now deceased professional friends' wife, who hit her knee on a corner of a piece of furniture. She was put in a plaster Paris bandage, and when brought to me some months later there was bony ankylosis of the patella to the femur.

When we lay such stress upon the speedy removal of the accumulation in the joint, the question naturally suggests itself if we ought not mechanically to remove it by punction. If the effusion is at all voluminous I am sure that this is very proper treatment, but it is not necessary in all cases. I suppose it is needless to say that if it is done at all it should be done under the strictest aseptic or anti-septic precautions.

There is one condition that does not belong to the category of sprains, but where the accumulation in the joint is of importance for the final healing, and that is in fractures of the patella and olecranon. Whatever be the causes that so often prevent bony union in these cases it is certain that distension of the joints absolutely prevents the apposition of the bony fragments, and that aseptic evacuation, if necessary, repeated, should be part of the routine treatment in the knee joint at least, but also in the elbow joint, if there is considerable effusion. It is not claimed that this will insure bony union, but it will lead to shortness of the fibrous bridge that connects the fragments.

There is a large group of joint diseases where a fluid accumulation in the joint is the leading symptom. Such accumulations are sometimes serous, sometimes purulent. The etiology is often obscure. The hydrops of a joint resulting from a tuberculous infection of the synovial sac has already been alluded to, and the remark was made that it might be difficult in a given case to reach a conclusion as to the tubercular nature of the effusion. But in this respect the affection is not different from inflammations in other tissues; for instance, when there is a slight bronchitis, we are often in the beginning unable to say whether it is the result of a tubercular infection, or an infection of that harmless nature that we call a cold. Analogous to a bronchitis from a cold is in the joint, the hydrops resulting from a catarrhal arthritis as Volkmann calls it, a disease that is very amenable to proper treatment. Although we have not yet heard of the microorganisms that produce this condition, all analogy leads us to believe that these hydropical joint diseases often depend upon a hematogenous bacterial infection.

The common articular rheumatism does probably depend, directly or indirectly upon a microbic cause, as we believe that, for instance, measles does. In neither case have the bacteria been demonstrated, but we have good reasons for assuming them in view of what we know about other bacterial diseases. And the same is reasonable about many other serous effusions in joints. But there is no reason to believe that no other irritants than the bacteria and their toxins are able to produce such secretions. There are instances enough, as, where there is a displaced meniscus, or a loose cartilage in the joint; the irritation from such a body produces dropsy of the joint. But, as there are many cases of so-called hydrops, where there is no obvious irritating body, the bacterial cause of some of these cases seems probable.

The dropsies of the joint have since the introduction of the principles of asepsis usually been treated by punctures and evacuations through a cannula; a further progress in their treatment consists in the washing out through the cannula with an antiseptic or disinfecting solution. For this purpose is used irrigation of sublimate or carbolic acid in suitable dilutions. Inasmuch as the danger from a puncture and an evacuation is confined to errors in our antiseptic measures there is no additional risk in using the antiseptic washing, and the results are more certain. In some cases we see that a hydrops in a joint depends upon an infective ostetis in the neighboring condyle.

(To be concluded next issue.)

To Expel Tapeworm.—A Medical Summary writer directs: One drop of croton oil dissolved in thirty drops (about fifteen minims) of chloroform and one ounce of glycerine, given at night on an empty stomach. Follow this in the morning by a sufficient quantity of castor oil to purge well, and the tapeworm—head and all—will come out with the purgation.—Louisville Med. Monthly.

*THE CODE OF ETHICS.

By Samuel C. Busey, M. D.
Washington, D. C.

(Selected from Jour. Amer. Med. Ass'n.)

Ethics may be defined to be the adjustment of acts to ends. In medicine the acts relate, for the most part, to conduct, impliedly, good conduct, which "gains in ethical sanction" in proportion as the "activities do not necessitate mutual injury and hindrance" * * "but consist with and are furthered by coöperation and mutual aid."

In a homogeneous citizenship the evolution of conduct proceeds with the development of Christian civilization, and by common consent, becomes the type of moral standard which will unify the adjustment of acts to the attainment of a common purpose among the component constituency of any avocation in civilized life.

There is no occupation or trade without rules of conduct, either written or unwritten, which are either good or bad as the ends to be obtained rise or fall in the scale of morality and good citizenship. A man may inherit or acquire the qualities of a gentleman. He need not be a Chesterfield in manners, nor a monk in the abstemious discipline of self-denial, but he can be a gentleman only by virtue of the adjustment of his acts to the aims of good conduct in the activities of human life. As with individuals, so with classes and communities.

The popular contention that gentlemen do not need a formulated system of ethics for their guidance is flatly contradicted by the history of every ecclesiastical and parliamentary body, social club, business organization, scientific society, and the unwritten esprit de corps of numerous classes of educated and cultivated people. In fact, in many instances, the unwritten ceremonial requirements of classes and of society in general are more rigorous and less tolerant than those of formulated systems of ethics. The inherent right of private judgment can not be protected, either in public or private life, without the restraint of accepted authority. Two persons may differ in opinion, on any debatable question, but neither has the right to push the difference to physical collision or sink it to the grade of moral turpitude.

In small populations, as with occupations with limited constituencies, the evolution of good conduct develops along the line of coöperative and mutual adjustment of acts in the promotion of the common good, but with increasing numbers "one is forced to live more and more in the presence of his fellows." In large and constantly increasing populations and membership in occupations, heterogeneity may, and frequently does, become a disturbing element, and organization with defined limitations of restraint and toleration becomes an important and necessary factor in the evolution of the highest type of ethical conduct. In other words, those acts which may be, as well as those which should not be, done must be set forth in such a manner and form as may best promote the attainment of the highest standard of mutual good conduct.

Medicine is a composite science, and, is, confessedly, the most difficult and intricate of sciences. The medical profession is, perhaps, the largest and most broadly educated class in every civilized community. Accessions come to it from every class and race of civilized people. In the broadness of thought and the beneficence of its acts and ends it invites every class and caste of civilized races to its ranks, that it may continuously widen and expand the scope of its usefulness and philanthropy to the end that every person and all peoples may seek and obtain through its golden offices the full measure of a beneficient science.

In this country the evolution of medical ethics culminated in the adoption, at Philadelphia, in 1847, by a body of representative men—now know as the American Medical Association—of a code of American medical ethics, which, with a few explanatory declarations, has been accepted by the profession at large as the common basis and guide of good conduct. Previous to that date the profession, in a few isolated localities, had established codes to segregate the qualified and honorable from the charlatan and mercenary impostor, with satisfactory results.

The unanimity of its adoption, general acceptance and continued enforcement through half a century, without material alteration, eliminates any doubt of the wisdom of the adoption of such a system of good conduct. The question of policy being, therefore, settled, this discourse will be limited to the consideration of such salient features as set forth the influence of the unification of ethical conduct, to the end that every member of the profession of medicine may exert "his best ability to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness."

The code is subdivided into three sections, under the separate headings of: "The Duties of Physicians to their Patients;" "Obligations of Patients to their Physicians;" "Of the Duties of Physicians to Each Other, and to the Profession at Large;" "Of the Duties of the Profession to the Public, and of the Obligations of the Public to the Profession." The principles outlined in these headings are emphasized in detail, so that the whole is a concrete expression of the consensus of opinion of the duties and obligations which constitute the highest ideal of ethical conduct.

"Every individual on entering the profession becomes thereby entitled to all of its privileges and immunities," and, "should therefore observe

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*Annual address of the President of the Medical Society of the District of Columbia, delivered Dec. 20, 1899.

strictly such laws as are instituted for the government of its members." Every organization of physicians which by the adoption of its code of ethics, becomes affiliated with the American Medical Association must possess the inherent right to prescribe and enforce such restraints as may, at times, be needful to discipline refractory members. Dishonorable conduct must have a limit. The Code, however, is free from any threat of restraint by prosecutions and penalties. It seeks to promote the evolution and unification of ethical conduct by sharply contrasting good and bad conduct and by marking the border line beyond which misdemeanor becomes a corpus delicti. It appeals to the nobler qualities of a higher standard of moral excellence and beneficence, in that the physician may be the minister of hope and comfort to the patient, and bases this appeal on the postulate that as the standard of qualification advances, so should ethical conduct rise along the gamut of evolution. "No scientific attainment can compensate for the want of correct moral principles." The Code pleads for mutual forbearance, fraternal courtesy and a broad and generous fellowship, that contumely, bickering, and discord may not fritter away the power and influence of the profession for good. Probity, candor and truth are qualities not less essential in support of professional character. "There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to his profession and to his patients." In such incisive words the Code vouches for honor and integrity, and stamps the derelict with the seal of condemnation.

The inviolability of the confidential communications of patients to their physicians is the first and most sacred obligation of professional life. It has come to us through the ages past as an unbroken rule of conduct, and all codes of medical ethics stigmatize with dishonor the voluntary disclosure of such confidences. The precept of the Code extends the obligation of secrecy beyond the period of professional service, to the end that "none of the privacies of personal or domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged except when imperatively required to do so." The force and necessity of this obligation are so great the profession has sought the protection of statute law. In twenty states and in this District such laws have been enacted, the object of which is the extension to citizens of liberty of privileged communications and their protection in the enjoyment of the rights of unreserved and confidential confession to physicians. Such statutes add the force and fiat of law to the decree of the medical profession, which has always and everywhere throughout the civilized world resisted the compulsory disclosure in open court of information "acquired in attending a patient in a professional capacity and which was necessary to enable the physician to act in such capacity."

With equal cogency the system of ethics sets forth the obligation of qualification: "Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice." To this is added the more authoritative declaration that "a regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession." So also does it insist that "the public ought likewise to entertain a just appreciation of medical qualifications, to make a proper discrimination between true science and the assumptions of ignorance and empiricism." These significant averments point to a high standard of scientific acquirement and expand the scope of ethical conduct.

Medical ethics, as formulated in the national Code, combines knowledge with morality, and emphasizes in spirit, if not in letter, the truism, that in medicine the highest attainment of either can not compensate for the want of the other.

The educational influence of the Code is attested by history and observation. The assemblage at Philadelphia, in 1847, was composed of the most distinguished and best equipped medical men from all parts of the country, who had come together to confer and devise a plan of organization, which should have for its object the unity of the profession on a basis that would define the duties and obligations of each individual member to each other, to the profession and to the public at large, thereby creating a compact body that would assert and make effective its prerogatives pertaining to the promotion of good conduct and elevation of the standard of medical education. Whilst the maximum development along these lines of progress has not been reached, sufficient has been accomplished to invoke the gratitude of every true and conscientious physician. It gave impetus to new thought, out of which have come the state medical practice acts; state and municipal sanitary legislation; the organization of health boards, associations, and departments; improved, enlarged and higher medical college curricula; a higher grade of scientific attainments; a more complete, and better adapted hospital construction, and improvement in hospital management; the protection, not yet complete in all the states, of the confidential communications of patients to their physicians from exposure in open court; and, with all, a wider scope of beneficence, a broader utility and more general diffusion of knowledge of sanitation and public hygiene. These and other reforms are the outcome of those precepts in the Code, which enjoin the duties of good citizenship.

The educational obligations are not, however, limited to the promotion of a higher standard of professional qualification. Under the heading of "obligations of patients to their physicians," the Code sets forth some very simple and general recommendations, which might contribute to the comfort and well-being of patients and increase the efficiency of medical service. "The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health, for the welfare of those who avail themselves of their services, certainly, have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants." No suggestion is made to interfere with the right of selection, but it does insist that a medical adviser shall be one who has received a professional education. Nor is the right to dismiss a physician denied, but justice and common courtesy require that the reasons for such dismissal should be declared. No physician not cognizant of the causes of his dismissal, can protect himself from sinister innuendo and defamation of character. Candor and frankness on the part of dissatisfied patients of their friends, and forbearance with good temper on the part of the physician, would eliminate, in most cases, friction and discontent. Patients naturally depend on the skill, attention and fidelity of their physicians, who should so "unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence." If every case committed to the care of a physician was treated "with attention, steadiness, and humanity" we would, probably, hear less of antagonism between physicians and patients, and professional work would more frequently result in mutual benefit.

The duties of physicians to the public comprise another educational function, which is so distinctly stated that nothing more is needed to invite attention than its re-statement in the language of the Code: "As good citizens it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc.; in regard to measures for the prevention of epidemic and contagious diseases," and "when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical." The American Public Health Association is the outgrowth of these injunctions, and has, perhaps, accomplished more than any other organization in the fulfilment of the "duties of physicians to the public," by popularizing the study of the science of sanitation and promoting legislation in the interest of public health. In some measure it has removed the mask of exclusiveness, which obstructs the diffusion of useful knowledge among the people, and enlarged the opportunities for the practical application of the duties and obligations of good citizenship.

The very generous and magnanimous compliance of the profession with these injunctions has enlarged the sphere of its humane and beneficent instrumentalities, thereby contributing to the welfare of communities in the diminution of disease, preservation of health and prolongation of life. So much has been accomplished along these special lines of progress that one is surprised at the defiant antagonism of the lay directories of some hospitals and other medical charities, and of legislative bodies, which seek by hostile interference, and other reprehensible practices, to limit and thwart the counsel of those who are the only competent advisers. Such obstructive methods will not cease until the profession asserts and maintains its prerogatives in all the offices of good citizenship which pertain to the health of communities.

There is another thought entitled to consideration in this connection, which invokes a more general fellowship with the great body of scientists, and that larger class of persons, not specialists in any branch of science, but patrons of learning, seeking to acquire and diffuse knowledge among all classes of educated people. The profession must abandon the privacy and exclusiveness of the closet and meeting-room and engage more widely and effectively in the education of the public in preventive medicine, in which lies the hope of obtaining the highest aims of scientific medicine.

In affiliation with other local scientific and learned bodies constituting the Washington Academy of Sciences, this Society has entered a new and larger field of usefulness, which abounds in the opportunities of a broader conception of its duties and obligations that it may live more and more in the presence of the public at large. Scientific medicine must fail in its mission of humanity and beneficence in so far as it falls short of asserting the inalienable right to lead, direct, control and dominate popular ignorance, prejudice and cupidity, to the end that legislators and all others in authority must come to know its force and power in all things pertaining to the advancement of sanitary science and preventive medicine. The art of healing can not be dissociated from the science of prevention. The education and betterment of the people in sanitation is not less humane than the healing of the sick. During recent years this Society has made creditable progress in this department of medical policy, and now, with the coöperation of cognate and allied associations, it must hope to accomplish other reforms, still in abeyance through lack of information on the part of a suffering community.

The beneficent, moral and educational functions of the Code are more distinctly and conspicuously set forth than the lucrative. Moral duty "is independent of and superior to all pecuniary considerations," nevertheless, the services of physicians "are of such character that no mere pecuniary acknowledgements can repay or cancel them." And inasmuch as the office of a physician can not "be supported as an exclusively beneficent one," it is the duty of the faculty in every town or district to "adopt some general rules, relative to pecuniary acknowledgments from their patients, and it should be deemed a point of honor to adhere to the rules with as much uniformity as varying circumstances will admit." Justice and equity are distinctly contrasted with mercenary extortion and gratuitoüs services to the affluent.

Non-sectarianism is a cardinal tenet of the Code. There is not one article or clause in it "that interferes with the exercise of the most perfect liberty of individual opinion or practice," or that interdicts, under any circumstances, professional services whenever there is pressing or immediate need of them. It does, however, assert that professional abilities and requirements "ought to be the only acknowledged right of an individual to the exercise and honors" of the profession, and excludes from such association those whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the "aids actually furnished by anatomy, physiology, pathology and organic chemistry." In no trade or occupation do "mankind rely on the skill of an untaught artist." Medical knowledge is not intuitive. Every physician must "rely upon the rectitude of his judgment," because there is no tribunal other than his own conscience, enlightened by knowledge, to adjudge the penalties of carelessness, neglect or ignorance. The creed of medicine condemns the idolatrous dogmas of divine metaphysics, divine healing, "Christian Science," and other equally fraudulent practices, and relegates them to the jurisdiction of criminal codes.

The spirit and precepts of the Code have been legalized in most of the states by medical practice acts. In this district three systems of medicine have been legalized, with the requirement of the same standard of qualification of all licentiates in the branches of anatomy, physiology, chemistry, pathology, hygiene, histology, surgery, obstetrics and gynecology, diseases of the eye and ear, and medical jurisprudence, leaving the qualifications in the branches of materia medica, therapeutics and practice to be determined by the special requirements of each system. The movement, which originated with this Society, now in progress to unify the requirements of the state medical practice acts, is in the direct line of the teachings of the Code, and it may be desirable, in the near future, to eliminate from these acts all reference to different systems of medical practice and base the issuance of licenses to practice medicine on a uniform standard of qualification in the sciences which make up the science of medicine, leaving the disputed problems of therapeutics to the enlightened and conscientious judgment of licentiates.

Persistent misrepresentation of the non-sectarian spirit of the national Code of Ethics did in some measure, for a time, interfere with the progress of medical education, but with the inauguration under the auspices of the Code, of the new era of a higher standard of qualification, legislatures have come to know their constituencies would not longer tolerate the prevailing ignorance among practitioners in the "sciences which make up the art of medicine." By these adjustments of acts to ends, good conduct has obtained the sanction of law and the teachings of the Code have been reinforced by the will of the people. Much, however, remains to be done, and the profession cannot hold itself blameless for such shortcomings as may retard or impede the progress of education.

To such extent has this misconception grown that many people and some physicians believe the appellation of allopathy to the regular medical profession is a complimentary designation, and not, as intended, an opprobrium. If there is a class or sect of people who hold the therapeutic doctrine that diseases are curable by the production of other diseases, such persons are outside of the regular profession and not fit to practice the healing art. The Code denominates its adherents and followers, "the regular profession," not in any invidious spirit, but because the system is based on a knowledge of the sciences which make up the science of medicine.

In matters of etiquette, ceremony, intercourse and consultations, the Code is distinctly advisory, but not in any sense mandatory. To promote the best interest of patients and to avoid reprehensible and contumelious interferences, professional intercourse must be guided by such uniform rules of good conduct as may conduce to harmony and co-operation in act and spirit. No hard and fast regulation can be made applicable in all cases. In exceptional instances all rules are subordinated to the emergency which demands immediate aid, but no circumstances can justify dishonorable and ungentlemanly conduct. If consultants were permitted to rush pell-mell, before the time agreed on, into the sick chamber, proceed with their examination, without the aid to be furnished by the attendant, consultations, which are for the benefit of the patients, would in most cases be unsatisfactory, and in many disastrous to patients. The Code advises consultations in difficult and protracted cases, because they "give rise to confidence, energy and more enlarged views of practice," and enjoins on the consultant "the most honorable and scrupulous regard for the character and standing of the practitioner in attendance." To this end uniform formalities of etiquette and decorum dignify and emphasize the esprit de corps of professional intercourse, but really are of infinitely greater importance to the welfare of the patient.

Misconception of the tenor and misrepresentation of the purpose of the formal declaration of the duties and obligations of physicians in support of professional character have given rise to much inane criticism and sometimes sneering denunciation of medical ethics. There are many good and well-meaning people who cannot understand why physicians should not submit to their unstable will, and change and modify the ordinary courtesies of good conduct to sanction interference or to gratify caprice. Medicine is a deliberate and painstaking science, conducted as will best conduce to the attainment of its highest aims. It is not an emotional profession, to be swayed by every outburst of bad taste, bad breeding, ingratitude and discontent. If the Code tolerated submission to malevolent criticism and malign detraction, the practice of medicine would be degraded to the slavish service of menial servility. Medical men with loose and unethical methods, and others who have agreed on their honor to comply with the system of ethics have incited popular censorship by their failure or refusal to comply with its precepts.

No part of the Code has been so much assailed by dissenters and pretenders as that section that declares it "derogatory to the dignity of the profession to resort to public advertisements, or private cards, or hand-bills inviting the attention of individuals afflicted with particular diseases, publicly offering advice and medicine to the poor gratis, or promising radical cures, or to publish cases and operations in the daily prints or suffering such publications to be made; to invite laymen to be present at operations, to boast of cures or remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician." These are the most positive interdictions of the Code. They set forth and condemn such meretricious methods to gain popular favor. Medicine is not a mercantile occupation, but a beneficent and life-saving science, and can not, therefore, accept the rules and practices of trade and business as the guide of good conduct in matters pertaining to the discharge of its special duties and obligations. The medical profession would soon sink to the level of the advertising and mercenary quack if it permitted its members to display their qualities and successes in the public press, or in hand-bills through the bill-poster, or in bulletins thrown into doorways of private dwellings. In the rivalries of such reprehensible practices the ignorant and most unscrupulous would always be in the lead, and chicanery, duplicity, and falsehood would be the winning qualities in the fierce struggle for subsistence.

"Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument," medicine or discovery, to dispense a secret nostrum, "or to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." The public at large cannot appreciate the force and necessity of these restrictions, because it fails to discriminate between the objects and methods of business and those of a beneficent and liberal science, which seeks to promote the welfare of the people. The patenting of surgical instruments, medicine and discoveries is not only "inconsistent with beneficence and professional liberality," but would retard the progress of medical science and limit the sphere of its good offices and usefulness. If Jenner had patented the discovery of vaccination, small-pox would have continued to scourge the world. In what condition would medicine and surgery be today, if Morton and Simpson had, respectively, patented ether and chloroform anesthesia? The lessened mortalities in medicine, surgery and mid-wifery, due to these discoveries, cannot be measured by the money value of the agents employed. If Sir James Simpson, Gustave Simon and Marion Sims had patented their inventions and discoveries gynecology could not have reached its present state of development. In fact, surgical gynecology must base its achievements on the discovery of anesthesia in 1846, and the invention of the duck-bill speculum in 1848. If antisepsis had been patented, Lord Lister would not now be a peer of England, but a private citizen of Scotland, living, perhaps, on the accumulated royalty of his patient. Honor comes to whom honor is due, but never to one who traffics in beneficence. such are some of the illustrations going to show the wisdom of these interdictions .

In this connection I must invite attention to another injunction, to the effect that physicians should exercise "their option in regard to the shops to which their prescriptions should be sent." The time has come when the public welfare and individual reputations impose this obligation on practitioners of medicine. The claims of right, by pharmacists, to prescribe across the counter, to sell poisons without restraint of law, to repeat and duplicate a prescription containing poisons without the knowledge and consent of the physician making it, and to dispense it to others than the original holder, have become such common evils, fraught with such danger to health and life, as to demand regulation by statute law. It may be that if any organized body of physicians should issue and enforce its mandate that patronage would cease with the continuance of the practice, the evil would diminish. While reputable pharmacists might accept the option of physicians as the rule of conduct, there are others who openly and defiantly declare their purpose to disregard any such restriction.

Proprietary pharmacy is the most pretentious of the artful devices of empiricism. The daily mails bring to every physician the advertising bulletins of proprietary pharmacists, filled with the certificates of physicians, setting forth the wonderful virtue of some special compound, mixture, tablet, or pill, each of which is extolled as a panacea for diseases having no etiologic nor pathologic relation to each other, and the credulous practitioner goes forth on his daily rounds enthused with the single idea that he has at last discovered a remedy with which he can drug, dose or feed every patient, and, when the day's work has been finished, congratulates himself with the accomplishment of the highest aims of a beneficent science.

The National Code of Medical Ethics is the official declaration of the policies of the regular medical profession of this country. As such it will continue to command the respect and attention of those who believe that eithical conduct is an element of success in the attainment of the confidence of the public. Observation and experience attest the soundness of this belief. Popular censorship never fails the detection of apostacy, and is quick to stamp dereliction with the badge of dishonor. No physician ever failed in the practice of medicine because of its high ethical standing. The occasional loss of a client because of adherence to the prescribed rules of good conduct is much less frequent than losses from such irregularities as invoke professional criticism and discontent of clients. Those who stand on the higher plane of ethical conduct and highest standard of professional qualification will most surely command the respect, confidence and admiration of the public; and reap the richest reward. The more the Code is studied, the more highly will its precepts and policies be appreciated, and the more widely will it be accepted as the guide of good conduct.

"Say," said the doctor, addressing the druggist and winking knowingly at the clerk, "do you know anything about this stamp tax?"

"Sure," replied the druggist. "What do you want to know?"

"Suppose," continued the M.D., "that I wanted to express my opinion; would I have to stamp the express receipt?"

"Undoubtedly," answered the druggist. "But if you will allow me, I will suggest that you forward your opinions by mail!"

"And why by mail?" asked the autocrat of physic.

"Because," replied the dispenser, "as they have no weight it would be much cheaper."

The addition of a few drops of peroxide of hydrogen to urine containing pus, will cause bubbles to rise and froth to appear on the surface, similar to its action on pus in other localities. This test is characteristic and reliable.

The following conglomerations from the New York Independent would make a good advertisement for a few of the quacks of Minneapolis:

"Legs and arms sawed off while you wate, without pane. No odds asked in measles, hooping coff or mumps; tumors a Specialty. bunions, corns and ingrowing tow nails treated scientifically; cramps and worms nailed on sight; moles and cross-eye cured in one treatment or no pay. P. S. Terms—Cash invariably in advance. No cure, no pay—P. S. (Take Notis.) No coroner never yet sot on the remanes of my customers and eny one hiring me doan't have to be good layin' up money to buy a gravestone. Come won, come awl."

It is alleged that painting the part with collodion will cure pruritis ani completely in twelve to fourteen hours, and also tend to reduce the size of external hemorrhoids, if applied on a tampon. The one disadvantage is a sharp burning sensation for a moment, which can be obviated by painting with cocaine beforehand.—Mod. Med. Sci.

A New Association.—The annual meeting of the National Hay Fever Association has recently taken place at Bethlehem, N. H. The main business of the meeting was the narration of the various experience of the members, who represented every part of the country. Misery clearly loves company.—Boston Medical and Surgical Journal.

Doctor:—"Why, how is this, my dear sir? You sent me a note stating that you were suffering from mumps, but I find this a case of rheumatism."

Patient:—"Doctor that's all right, there wasn't a soul in the house who knew how to spell rheumatism.

Surgeons are availing themselves of the electric batteries of the automobile, in taking the X-ray picture in the patients' room in his own house. As the automobile stands at the door its storage battery wires are led to the sick room and the skiagraph is taken without moving the patient.

Professor Roswell Park has made the startling prophecy that if for the next ten years the present relative death rates are maintained, in 1909 there will be more deaths in the state of New York from cancer than from consumption, smallpox and typhoid fever combined.

PHILADELPHIA HAS ONE ANYWAY.

"And how many children have you, Mrs. Murphy?"

"Foive. Two livin', two dead, and wan in Philadelphy."

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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Annual Subscription, in advance, domestic, -	$1.00
Annual Subscription, in advance, foreign, -	1.50
Single Copies, This number, - - - -	.25

Advertising Rates made known on application.

ADDRESS ALL COMMUNICATIONS TO
THE MEDICAL DIAL, MINNEAPOLIS, MINN.
Masonic Temple.

MARCH, 1900.

THE BUBONIC PLAGUE.

Now that we have become an Asiatic power it behooves us to take notice of Asiatic diseases. Bubonic plague is endemic in many of the countries of Asia, and in view of the increased commercial and political relations with the Philippines through conquest, and with China through the open door negotiations, we may at any time have the germs of bubonic plague carried to our shores. Supposing the disease is brought to the United States is it likely to spread?

According to the researches of Kitasato, Yersin and others, bubonic plague may prevail in any climate, any latitude, and in any season of the year. Moderate temperatures combined with dampness favor its propagation. The Mongolian race suffers much more severely than the Caucasian, probably owing to bad hygienic conditions, poverty and ignorance.

Kitasato was the first to describe the bacillus which is the cause of the disease. It is a small short rod, with rounded ends, which resembles the bacillus of chicken cholera. It enters the human body easily and multiplies with great rapidity. It is found in large numbers in the pus from the buboes and occasionally in the blood, in the internal organs, and in the feces. Exposed to the sun the bacillus dies in about four hours but in clothing it may retain its vitality for several months. The bacilli enter the human body in three ways, by inoculation through an external wound, or abrasion, by respiration, and by the stomach. The conditions favoring plague are similar to those favoring typhus fever, namely crowd poisioning, bad ventilation and drainage, impure water supply, famine or imperfect nourishment, and inattention to sanitary requirements.—(Wyman.)

Notwithstanding the terrible mortality attending the plague, which has been placed as high as 90 to 95 per cent of those attacked, the disease is not so infectious as scarlet fever, measles, small-pox or typhus. Four types of the disease are recognized: (a) bubonic or ganglionic: (b) septicemic: (c) pneumonic: (d) intestinal (rare).

In the bubonic variety the first symptom is a chill, followed by a temperature more or less intense, and in some cases reaching 106° or 108° F. Nausea, vomiting and extreme prostration are marked symptoms. A glandular enlargement, usually in the axilla or groin, rapidly supervenes, forming a bubo surrounded by an extreme oedema, and giving the character from which this variety of the disease takes its name.

When the bubo suppurates and breaks down as it sometimes does, the disease passes into the septicemic form. This form of the disease can also be produced by infection through the intestinal, digestive or respiratory passages.

The pneumonic form is the most fatal of all the varieties of the plague.

It comes on insidiously, the usual premonitory symptoms being pain in the side, followed by difficult and embarrassed respiration, cough and the expectoration of a bloody, tenacious mucus, which, under the microscope, is found to contain the bacillus pestis in great profusion.

Serum therapy has been fairly satisfactory in the treatment and prophylaxis of plague. For the cure of the disease there is but one accredited remedy, the curative or "anti-toxic serum" of Yersin and Roux. Yersin's first experiments were at Amoy in 1896, when he treated twenty-three cases with a mortality of two, and these were desperate when first brought under observation, and should not have been included for statistical purposes. (Wyman's report.) Further experiments have confirmed the value of Yersin's serum, the last to come to our notice being those of Dr. Carmichael at Honolulu.

As a prophylactic the agent is also of great value, as will be seen from the following extract from Roux's lecture at the Pasteur Institute in 1897.

"The Bombay manager of the local branch of the Credit Lyonnaise resided with his wife, children and numerous retinue of servants in a dwelling in the infected part of the city. His little daughter was stricken with the pest in a virulent form; was treated with the serum and made a rapid and uneventful recovery. As a precautionary measure the whole family were subjected to inoculation, and the same measure of treatment was offered to the native domestics. Some accepted and escaped infection, while six, who declined on the ground of religious scruples were all stricken, and five died. It seems that a more crucial test could not have been devised or a more triumphant vindication obtained."

The French commission which has recently investigated the disease in Oporto, Portugal, reports from experiments on mice, monkeys and human beings, that the value of the serum is incontestable. In cases treated by this agent the mortality was only 14 per cent while in those treated without the serum 70 per cent died. Another preventive, the Haffkine serum, has been also extensively employed. Its value lies in the fact that a dose of it confers a longer immunity than the Yersin serum. It must not be used during the progress of the disease, for, if by chance, the person is already infected it may produce fatal results. The Heffkine serum should therefore he used only as a preventive, while the Yersin material may be used as both a prophylactic and a curative agent.

Should bubonic plague visit our shores we have little to fear from it. In bygone epidemics, when it destroyed its victims by thousands and even millions, it found a congenial soil in the filth and squalor of the middle ages, or the barbaric habits of the homes of the far East. Our greatest safety lies in the sanitation of our cities; and in the event of an outbreak we have a second line of defense in the application of that brilliant discovery of modern science—serum therapy.

A SIMPLE DEVICE FOR RAPID HYPODERMOCLYSIS IN COMBATING SHOCK.

The heroic measure of opening a vein in a patient suffering from hemorrhage and injecting into it the blood from the vein of a healthy individual is nowadays seldom resorted to. Hypodermoclysis, or the injecting of a normal salt solution beneath the skin, is a slower and ever-ready method of accomplishing the same purpose. It has one objection, however, and that is the length of time which it takes to produce results. A person suffering from great loss of blood and shock cannot have more than from a pint to a quart of water injected beneath his skin in half an hour, and this is too long a time for a case of great emergency. Dr. Evan O'Neil Kane gives, in the Journal of the American Medical Association, of March 3d, a simple method which is likely to prove of great value.

The apparatus can be constructed by any one with the slightest mechanical skill in a few moments, without trouble, and at a trifling expense. The materials required are an ordinary rubber-bulb glass medicine dropper, five yards of fine rubber tubing, such as is used for nursing bottles, four extra hypodermic needles, or fine aspirating needles, and a wire hairpin. The whole appliance can be sterilized in a few minutes by immersion in boiling water. The normal salt solution can be placed in any clean bowl, bottle, pail or other receptacle of sufficient size. Dr. Kane further describes his method as follows:

"Into one end of three feet of the rubber tubing—the end which is to serve as a siphon—is inserted a wire hairpin to act as a stylet in retaining of the tubing in the proper curve to hang over the edge of the vessel. The pin must have first had its curve altered to a more obtuse angle to prevent kinking of the tubing. A few short crooks along each fork will prove of advantage by preventing its sliding through the rubber tubing when subjected to tension. By this device is secured a firm and properly curved siphon which can, by bending the pin more or less, be made to fit over the lip of any vessel. The length of the short arm of the siphon can be increased or diminished to reach the bottom of a vessel of any depth, by merely sliding the wire a greater or less distance along the tubing.

"Into the other end of the tubing is inserted the nozzle of the dropper, the tip of which, if too small, should be broken off where it is wider. In the rubber bulb of the dropper are cut four openings, each a little more than half the diameter of the tubing. Two lengths of rubber tubing, each two yards long, are now drawn through the holes in the bulb at right angles, half their length, so that a foot and a half hangs out on each side. I should add that a notch should first have been cut in the middle of each tube to be drawn, notch upward, fully inside the rubber bulb. Finally to the open ends of the rubber tubing attach the four hypodermic needles.

"An apparatus with four needles can readily introduce from two to four quarts of fluid into the tissues in half an hour. The amount will depend on the size of the needles, the elevation of the receptacle and the thickness of the cellular tissue. A much larger amount of fluid can be introduced if more needles are employed. In order to show how we may increase the number in one apparatus, I show one here which by additional branching from the four terminal points, supplies ten needles. I have not, however, for practical purposes, found it necessary to use so large a number. One can conveniently insert a needle into each loin, and one below each scapula, on each side of the abdomen or under the breasts. It is well to change the location of the needles slightly from time to time, to prevent over distension of the tissues.

"To start the current through the siphon, suction should be made through the needles, the points of the others being closed by the finger and thumb. As a precaution against possible sepsis, it might be well to make the suction indirectly through the clenched fist.

"In urgent cases, I elevate the receptacle five feet, but this is objectionable on account of the pain and soreness produced by so forcible distension. The smaller the needles and the less the degree of elevation the less will be the pain to a conscious patient. The rapidity of the infusion will be correspondingly slow.

"When the patient is suffering from shock—usually due to loss of blood in railroad cases—the surgeon may set the apparatus in action in a few moments, and leave it without further attention, while he and his assistant are employed about the various steps of the operation.

"I carry an infusion appliance in my emergency surgical case, and another in my obstetric bag—I have more than once save the life of a woman in postpartum hemorrhage by its prompt use—while a third is hanging in position in my hospital operating room.

"Hypodermóclysis cannot act on the heart as instantneously as if the veins or arteries are filled directly, but the simplicity of the application and the greater safety to the patient more than outweigh the slight difference in time in most cases. I question, indeed, whether the additional time required in properly isolating the vessel, etc., does not occupy a greater amount of time even when one has every convenience at hand. There are but few railroad surgeons, too, whose experience with intravenous infusion has been sufficient to warrant them in searching for, and attempting to open, a partially collapsed vein amid the hurry and confusion attendant on most railroad work."

TO FILL THE PLACE OF THE INDEX-MEDICUS.

Our French confreres, probably appreciating the Index-Medicus more than we ourselves have done, have decided to continue the scientific traditions, and accordingly there appeared on the 15th of last month the first number of Bibliographia Medica for the year 1900. As announced by its promoters, this work is modelled after the American Index-Medicus, which was founded in the United States in 1879, and ceased to appear in 1899. Like its predecessor, the new publication will contain about four thousand bibliographical references per number of eighty pages; that is to say 50,000 per year at least. The price of subscription is 50 francs in France and 60 francs for foreign countries in the postal union.

While we regret the discontinuance of our own Index-Medicus we heartily wish success to the new work which takes its place. Le roi est Mist; vive le roi.

HYPODERMOCLYSIS IN TYPHOID FEVER.

Dr. O. C. Burgess, San Francisco, Cal., in the Medical Record, of March 3rd, says, "Why should it not be good practice to use the decinormal salt solution, upon occasions requiring it, by way of high rectal injection if practicable or by hypodermoclysis, or in emergency by the intravenous method? In addition to the usual advantages of hypodermoclysis, we should thus secure the introduction into the blood-vessels of a pure liquid, uncontaminated by the bacilli and ptomain products which liquids by way of the stomach and intestines are pretty sure to pick up, and the probability of decreased exosmosis should not be lost sight of.

"Indications for the use of the decinormal salt solution should not be limited to hemorrhagis cases, but the method should be resorted to in all cases in which the usual methods of treatment fail to accomplish the desired result. It is highly improbable that any harm could come from it."

SMALL POX.

It is surprising how reluctant many physicians are to be convinced that the disease which has spread all over the country is smallpox. There are many practitioners who have never seen a case of smallpox, and yet, set themselves up as champions of the absurd theory that the epidemic which is now prevailing in every state and territory of the union, and in Canada, is chickenpox.

Two characteristics of the present epidemic should settle this question.

1st. Chickenpox is a disease whose mortality is practically nil. Trousseau has said that no physician has ever seen a patient die from chickenpox alone. The present epidemic is attended with a mortality which we cannot afford to regard with indifference. During 1899 two hundred cases were reported to the State Board of Health of which number twenty proved fatal, or five per cent. This is no chickenpox mortality.

2nd. The age of the patients. It is exceedingly rare to meet with chicken pox in a person over 10 years of age. Many physicians have practiced for two or three decades without meeting with such a case. The returns to the Health Department of this city, however, show sixty-eight cases of chickenpox of which number five are adults.

We would earnestly urge upon all physicians to give their moral support to every effort that is being made to stamp out this epidemic. Dr. Bracken, the secretary of the State Board of Health, has been indefatigable in tracing the disease through the state, and we believe his prompt measures have checked its spread in many localities. Dr. Norred, under the auspices of the City Board of Health, is doing good work, and we trust that the efforts of both of these officers, supported by the profession and the public, will soon be rewarded by the annihilation of smallpox, so far as the fair and healthful State of Minnesota is concerned.

Philadelphia Academy of Surgery

THE SAMUEL D. GROSS PRIZE

One Thousand Dollars

No Essay which the Trustees deemed worthy of the prize having been received on January 1, 1900, they hereby announce that the prize will be awarded on October 1, 1901.

The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th St., Phila delphia," on or before October 1, 1901.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

W. W. Keen, M.D.,
J. Ewing Mears, M.D.,
J. Chalmers Da Costa, M.D.
Philadelphia, February 20, 1900. Trustees.

MEDICAL SENTINEL, Portland, Oregon. (25) December: Points of clinical interest in recent operative cases, A. C. Smith, Portland.—Medical legislation, R. L. Nourse, Hailey, Idaho.—Uric acid, E. J. Labbe, Portland.

OCCIDENTAL MED. TIMES, San Francisco. (20) December: State requirements for admission to the practice of medicine, A. M. Henderson, Sacramento.—Medical practice in Guatemala, W. H. Wentworth, Sacramento.—Pleuritis, J. S. Adams, Oakland.

WISCONSIN MEDICAL RECORDER, Janesville. (10) December: The diagnosis of diseases of the stomach, W. B. Metcalf, Chicago.—Therapeutic suggestions (first paper, veratrum viride), E. E. Rothrock, Tennessee Colony, Texas.—Hydracogin, H. Speier, Janesville.

BROOKLYN MEDICAL JOURNAL. (25) January: Achylia gastrica with report of two cases, H. W. Lincoln, N. Y. C.—Salpingitis, F. J. Shoop, Brooklyn.—Remarks on gangrene of the lower extremities, with a plea for early operative procedure, W. Madoren, Brooklyn.

ARCHIVES OF PEDIATRICS, N. Y. C. (20) January: A clinical study of laboratory milk in substitute infant feeding, L. Star, Phila.—Cerebro-spinal symptoms in influenza in infancy, T. S. Westcott, Phila.—A case of fracture of the pelvis with rupture of the urethra, (illustrated), J. B. Bissell, N. Y. C.

RICHMOND JOURNAL OF PRACTICE. (10) December: Gastric lavage, R. F. Williams, Richmond.—Some practical experience in asepsis and antisepsis in obstetrics, D. Ayres, Fort Plain, N. Y.—Remarks on ovarian tumor with twisted pedicle, R. Richardson, Boston.

JOURNAL OF MEDICINE AND SCIENCE, Portland, Maine. (10) January: General remarks on prolapsus of the rectum in children, C. G. Cumston, Boston.—A brief on the two most important surgical diseases of childhood, H. F. Twitchell, Portland.—The relation of phyisicians to the drug habit, H. M. Nickerson, Portland.

MARITIME MEDICAL NEWS, Halifax. December: Pyrexia, its pathology and treatment, A. B. Smith, Halifax.—Ophthalmic clinical contribution, D. Webster, N. Y. C.—Meningitis, two cases, F. W. Goodwin, Halifax.—Two cases of "la grippe" with symptoms pointing to cerebro-spinal meningitis, M. S. Dickson, Great Village, N. S.

TEXAS COURIER-RECORD OF MEDICINE, Fort Worth. (10) January: Ocular neuralgia, so-called, with report of cases, W. R. Thompson, Ft. Worth.—Carbuncle and its cure, R. W. Skipper, Lovelady, Texas.—Gunshot wounds, with report of cases, J. M. Neel, Bonham, Texas.—Tait's flap-splitting operation, a protest, H. K. Leake, Dallas.

THE LARYNGOSCOPE, St. Louis. (25) January: Appropriate treatment of certain varieties of nasal deflections and redundancy (illustrated), D. B. Kyle, Phila.—The therapeutic effects of vibratory massage in chronic deafness, Prof. Ostman, Marburg.—A case of mastoritis, cerebral tubercle, death, autopsy, B. C. Collins, Brooklyn.

MEDICAL TIMES, N. Y. C. (10) January: On the phenomena of electricity and life (part 2), J. M. Bleyer, N. Y. C.—An equation of responsibility, E. W. Pyle, Jersey City.—Complete exclusion of the intestine, in the treatment of inoperative abdominal tumors, H. I. Ostrum, N. Y. C.—The neuron theory, H. Gasser, Platteville, Wis.—The therapeutics of the bromides, J. Adolphus, So. Atlanta, Ga.

K. C. MED. INDEX-LANCET. (10) January: Inflammation, J. N. Jackson, K. C.—Laryngeal stenosis, C. S. Merriman, K. C.—The prevention of consumption, G. L. Richards, Fall River, Mass.—The use and abuse of hydrochloric acid and pepsin in diseases of the stomach, F. W. Froehling, K. C.—The report of a case of puerperal infection, complication, and its treatment, F. S. Clinton, Red Fork, I. T.—Neurasthenia, by the editor, John Punton.

MEMPHIS LANCET. (10) January: Report of four months service in internal medicine at St. Joseph's hospital, Memphis, (illustrated), W. Krauss, Memphis.—The modern treatment of face presentations, G. Kolischer, Chicago.—The physician as a factor in the spread of contagious diseases, Memphis.—Some remarks on the diseases of the eye, ear, nose and throat, E. C. Ellett, Memphis.—Recurrence of typhoid fever, with report of a case, L. L. Meyer, Memphis.

CHICAGO CLINIC. (10) January: Report of a case of cere-bellar tumor, operation, death, autopsy, D. A. K. Steele, Chicago.—The essentials of success in abdominal surgery, F. F. Lawrence, Columbus.—Diagnosis and treatment of hemorrhage into the peritoneal cavity, A. S. Waiss, Chicago.—Anatomical reflections on the pelvic outlet (illustrated), W. T. Eckley, Chicago.—Postpartum hemorrhage, G. Kolisher, Chicago.—Principles relating to static mechine construction, R. V. Wagner, Chicago.

JOUR. OF TUBERCULOSIS, Asheville. (25) January: Some measures lessening the infection and spread of tuberculosis, S. C. Jones, N. Y.—An early sign of tuberculosis, T. F. Harrington, Lowell, Mass.—The diagnosis of initial stages of pulmonary tuberculosis, W. R. Cochrane, Knoxville, Tenn.—Treatment of pulmonary tuberculosis with special reference to specific medication, J. N. Baker, Clearwater, Fla.—Treatment of pulmonary tuberculosis, W. R. Cochrane, Knoxville.

BUFFALO MEDICAL JOURNAL. (20) January: Etiological relation of auto-intoxication and auto-infection to diseases of the eye, A. A. Hubbell, Buffalo.—The hygiene of the asthmatic, G. N. Jack, Depew.—Some of the causes and effects of mouth breathing, J. M. Ingersoll, Rochester.—On the resuscitation of apparently dead newborn by Laborde's method, F. E. Fronczac, Buffalo.—Cephalagra and tic-douloureaux from accessory sinus affection, S. F. Snow, Syracuse.

PENN. MEDICAL JOURNAL, Pittsburg. (20) December: Personal observations on the development of modern surgery, G. G. Davis, Phila.—Tubercular arthritis of the knee (illustrated), J. W. Mcfarland, Pittsburg.—Philippine observations by an army surgeon, G. D. McIlwaine, Washington.—Pathology of tuberculosis, M. F. Force, Allegheny, Pa.—Ante-partum hemorrhage, W. D. Hamaker, Meadville.—Uterine hemorrhage with special reference to malignant growths, E. W. Bolton, Meadville.

RAILWAY SURGEON, Chicago. (25) December 26: Thoughts relative to the needs of our railway surgeons' associations and the universal betterment of our surgical work, H. L. Getz, Marshalltown, Ia.—Compound traumatic separation of the lower epiphysis of the femur, (illustrated), G. G. Cottam, Rock Rapids, Ia.—Head injuries, W. Jepson, Sioux City, Ia.

January 9: Conservatism in surgery, Ben Thompson, Tama, Ia.—Empyema, D. C. Brockman, Ottumwa, Ia.—Eczema complicating wounds, J. Schneck, Carmel, Ill.—Four cases illustrating various serrious types of fracture and traumatic amputation, T. H. Manley, N. Y. C.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, APRIL, 1900. No. 4.

Small Pox.

Papers Read at Meeting of the Hennepin County Medical Society, March 5, 1900.

SYMPTOMS AND DIAGNOSIS OF SMALLPOX.

By J. W. Macdonald, M. D., Minneapolis.

My experience with small-pox began during the early years of my practice in the terrible epidemic which swept over the British Isles from 1870 to 1873. My lot was cast in the mining district of Durham, a population in which the disease was very fatal. The intensity of the disease varied from mild cases, in which it was difficult to convince the patient of the nature of his ailment, to cases of the malignancy in which the first symptoms appeared in the morning and the patient was dead before night.

For convenience of description the clinical symptoms of small-pox may be divided into five stages. (1) Incubation; (2) invasion; (3) eruption; (4) secondary fever; (5) desiccation and desquamation.

The Stage of Incubation. This stage embraces the period from the reception of the virus into the system until the appearance of the first symptoms. Its duration varies from eight to fourteen days, the average duration may be set down as twelve days, inclusive. When the virus is inoculated the incubation is much shorter, eight days or less, even down to forty-eight hours. In variola hemorrhagica the incubation period was observed by Zuelzer in nine cases to be six to eight days. No symptoms are recognizable as a rule in this stage, except toward its close when two symptoms may attract our attention. The first of these is a feeling of discomfort, malaise; the second a catarrhal inflammation of the pharynx, tonsils and uvula. This has been explained by the theory that the lymphoid tissues of the true tonsils and of the lingual and pharyngeal tonsils are the first parts to be invaded by the disease germs, and, it is here the battle begins between the invaders and the defending leucocytes; hence, the hyperemia and inflammation. From a diagnostic standpoint the stage of incubation is negative ground.

The Stage of Invasion. We can best study this stage of the disease by examining the nervous system, the digestive system, and the vascular system. The nervous system gives the first warning in the form of a chill or rigor. It may be only a feeling of chilliness, or a severe shivering with chattering teeth, blueness of the lips and fingers, and cutis anserina, popularly called "goose skin." In children, convulsions may take the place of chills.

Continuing our examination of the nervous system we find that pain in the back is complained of, or the pain may be in the center of the sacrum (rachialgia). This pain in the back is a symptom of great prominence in the diagnosis of small-pox. It is believed to be due to hyperemia of the spinal cord, and hemorrhage, natural or induced, always relieves it. Pain in the limbs is frequently complained of and may be mistaken for acute rheumatism. Headache, giddiness, delirium, numbness of the extremities, sleeplessness, profuse sweating, paraplegia and involuntary movement of the bowels must be added to the list of nerve symptoms.

Coming to the digestive system, we observe nausea and vomiting as a common symptom, frequently accompanied with pain at the epigastrium, the appetite fails, the tongue is furred, the breath is foul, there is great thirst; in adults, there is generally constipation; in children, diarrhoea is not uncommon.

The vascular system is greatly disturbed as evidenced by rapid pulse, which, in persons of previously good health, is strong and tense—108 to 120 in adults; 140 to 160 in children. In severe cases the pulse may be soft and dicrotic, as in typhoid fever. The temperature rises proportionately with the pulse, and, on the first or second day, may reach 104 or 105, reaching its maximum height on the third day. Then comes the eruption, and, as if all the pent up evils of the nervous, the vascular, the digestive and the respiratory systems had been set free, the symptoms subside as soon as the eruption appears, and the patient experiences intense relief. The duration of the stage of invasion is generally three days, in severe cases it may be shorter; in mild cases it may be lengthened to the fourth day, or later.

The Stage of Eruption. On the third day, earlier in severe, later in mild cases, a rash appears, first on the forehead, face and wrists, then on the trunk, and, lastly, on the limbs. The vascularity of a part determines to some extent, at least, the development of the rash, hence, its early appearance on the face, or on any part subject to irritation by the patient's occupation, or by the temporary hyperemia produced by wounds. The mucous membranes are also affected by the rash, and in a case which I saw in consultation in the present epidemic, the eruption on the throat and lips was the first symptom to arouse the suspicion of the attending physician. From day to day the appearance and character of the eruption changes, as follows:

1st day, Maculae or hyperemic dots, as if the skin had been pricked with a fine needle or recently bitten by fleas.

2nd and 3d days. Papulae or Pimples. Even before they have become visible, they can be felt like shot beneath the skin, or detected in a photograph of the part. They become slightly raised at first and later assume a conical shape.

4th and 5th days. Vesicles. An exudation of serum raises the horny layer of the epidermis and a vesicle is formed, the contents of which are clear at first, and later, milky or opaque. The vesicle grows to the size of a split pea by the fifth day of the eruption.

6th and 7th days. Pustules. The vesicles become septic and each becomes a small collection of pus. The little abscess, as it may be called, becomes umbilicated or depressed at its summit, a characteristic of great diagnostic value. Suppuration may not be confined to the epidermis but spreading to the papillary layer of the derma, may cause proliferation of the connective tissue elements, which, later on, undergo cicatricial contraction and leave a permanent deformity known as "pitting."

Co-incident with the beginning of suppuration, or the formation of the pustules, a rise of temperature occurs, known as secondary fever. Its severity depends upon the amount of suppuration, being slight or absent in variola discreta, intense and prolonged in variola confluens. By the 7th day of the rash, or 10th day of the disease, the pustules are fully formed. They continue for about three days longer, undergoing the maturation or ripening process, then the little abscesses begin to break, form crusts and dry up, and we have reached the

Stage of Desiccation. The pustules rupture, or even before the rupture, they may exude a sticky, viscid, yellowish matter resembling honey, which oozes from the unbroken surface. In either case, a crust is formed and then is observed that horrid, indescribable odor, which, once experienced, can never be forgotten. I have frequently detected this oder in the wind which was blowing from a small-pox stricken village, more than a mile away. The scabs fall off in from three to six days.

Stage of Desquamation. Following the scabs successive scales of epidermis are formed and thrown off, after which, provided the inflammation has been destructive enough to invade the true skin, a cicatrix in the form of a small white puckered depression is left and the deformity known as "pock-mark" remains for life.

Such, in brief, are the symptoms of a typical case of small-pox, but it would be unreasonable to suppose that this description would fit every case. For instance, accidental rashes, so-called, are apt to appear during the stages of invasion and may deceive the unwary. They are usually erythematous in character, resembling scarlatina, erysipelas or measles. While the duration of the stage of invasion is on the average three days, the rash may appear on the fourth, or even fifth, in mild cases. Again, there are rare cases in which the attack of small-pox may terminate without any true eruption—the so-called variola, sine variolis.

The laity and many physicians have preconceived ideas of small-pox which are erroneous.

1st, They expect the disease to be attended with a high mortality. It is true that in some epidemics, 50 per cent of the confluent cases, and all of the malignant cases, have died, but this terrible death rate has only been observed in unvaccinated communities. Vaccination has changed all this. In an epidemic which would carry off 50 per cent of the unvaccinated, the mortality would be 26 among the badly vaccinated and 2.3 per cent among the efficiently vaccinated. Just as we have mild epidemics of scarlatina, measles or influenza, so may we have a mild epidemic of small-pox.

The present epidemic is, so far exceptionally mild. In Ohio, 2,000 cases were reported last year with only thirty deaths (Dr. Probst). In Minnesota 236 cases were reported up to Jan. 1st, with ten deaths. Since the 1st of Jan., seventy-three have been reported from the State outside the City, and approximately 140 from the city since Nov. Minneapolis is responsible for forty-four cases in the state outside the city in ten different localities. In the City of Minneapolis, from Jan. 1st to March 5th, eighty cases of small-pox have been recorded at the Health Office. Two deaths are reported. Twenty of the cases were sent to the quarantine hospital. (Dr. Bracken.)

Dr. Law has kindly placed at my disposal his notes taken during the time he was employed by the city to visit and diagnose suspected cases. His figures show that in the month beginning Jan 24, and ending Feb. 24th, ninety-three cases of undoubted small-pox were reported by him. The Health Office has only a record of eighty cases from Jan. 1 to March 5th. It is difficult to understand the discrepency in the figures.

Of the ninety-three cases reported by Dr. Law, fifteen were under 10 years of age; thirty-four between 10 and 20; eighteen between 20 and 30; ten between 30 and 40; six between 40 and 50; seven between 50 and 60 and three between 50 and 58. The decade showing the largest number of cases was from 10 to 20.

2d. The characteristic odor of small-pox is only present when the disease is confluent and the contents of the pustules are undergoing putrefaction.

3d. The present epidemic is believed by many to be chicken-pox. Why it should be so regarded is difficult to understand. For those who hold this view I should like to submit the following well established proposition: Chicken-pox is a disease of childhood, almost absolutely. In a practice of thirty years I have never seen a case of chicken-pox in a person over 10 years of age, and this has been the experience of many others. Dr. James Nevens Hyde, in Peppers System of Medicine, says "Varicella is essentially a disease of early life, occuring almost exclusively in infants and young children." Bartholow says: "It is a disease of childhood and rarely attacks any above ten years of age." Many other authors might be quoted. If all the cases recorded by the Health Office are true chicken-pox it is a most remarkable epidemic, perhaps the most remarkable that has ever occured, since the world began; for of forty-two cases in which the ages of the patients have been given, I find one is 16 years of age, one 19, one 18, one 15, and one 22. Here then is an epidemic of chicken-pox in which 11 or nearly 12 per cent are above 10 years of age. Still more remarkable is it that there are physicians in this city who are quoted as saying that all the cases are chicken-pox and not small-pox.

The mortality from chicken-pox is practically nil. When death follows chicken-pox it is the result of some complication. Trousseau says that no physician has even seen a patient die of chicken-pox alone. Would it not be astounding if 200 cases of chicken-pox should have occurred in this state, with ten deaths, or a mortality of 5 per cent? Or, that seventy-eight cases should have occurred in this city, as reported by the Board of Health, with two deaths, or a mortality of 2.6 per cent? I have learned on good authority that an undoubted death from small-pox has been recorded as typhoid fever, and that two cases of hemorrhagic small-pox have been reported as measles. If these reports are true we have at least eighty-three cases of a disease which has resulted in five deaths, or a mortality of over 6 per cent. If this epidemic is chicken-pox it is the most fatal and remarkable epidemic that has even been recorded.

Differential Diagnosis. Small-pox must be differentiated from the following diseases: measles, meningitis, pneumonia scarlantina, syphilis, typhoid fever and chicken-pox. Lack of space compels me to pass over all of these, except chicken-pox, which is the only point upon which differences of opinion have arisen as regards the present epidemic. Variola and varicella at one time were regarded as identical and this belief was held by such eminent authorities as Hebra, of Vienna, and his son-in-law, Kaposi. In an epidemic of only one of these diseases there is little room for doubt; when both are epidemic in the same community the difficulty is vastly increased; and yet, the characteristics of the diseases are sufficiently distinct.

1st. The age of the patient. Small-pox occurs at any age. Chicken-pox may occur in children at the breast, is seen in increased frequency up to the fourth year at which period it attains its maximum. It is exceedingly rare in children above 10 years of age.

2d. The onset of the disease. Small-pox is preceded by malaise, fever, backache, headache, and an eruption on the third day. The first evidence of chicken-pox is the eruption. As Whittaker puts it: "The most anxious mothers seldom notice illness of any kind until the eruption appears, and the physician is called to decipher the eruption."

3d. The location of the eruption. Small-pox appears, as a rule, first upon the fore-head and extends regularly down over the face, then over the neck, chest, etc. At the same time it appears on the wrists, lastly upon the limbs. Chicken-pox, as a rule, first makes its appearance on the back, neck and chest, or, if it comes upon the face, it spreads in an irregular manner.

4th. The character of the eruption. The vesicles of variola are deep seated and contain serum at first, and, later, pus. The vesicles of varicella are superficial and contain only serum. The small-pox eruption is nearly uniform in size. That of chicken-pox is very variable. The eruption of small-pox is most abundant upon the face and fingers. The eruption of varicella may be most abundant over any part of the body.

5th. The appearance of the fever. In variola fever, more or less intense, precedes the eruption by about three days, and then falls with it. In varicella the fever occurs only when the eruption is on, and increases with its development. A secondary fever occurs in many cases of small-pox, no secondary fever attends varicella.

6th. The mortality. In small-pox the mortality varies from two to fifty per cent. In chicken-pox the mortality is nil.

If after a most careful examination the physician is still uncertain of his diagnosis, the possibility of allowing so terrible a disease as small-pox to get beyond control should lead him to give the public the benefit of the doubt and place the case under the most rigid quarantine.

A LITTLE BABY.

Mr. and Mrs. Adam Niedlein, of Franklin avenue, Guttenberg, N. J., are rejoicing moderately over a very small addition to their family, a girl weighing only one and a half pounds. Despite its size, it is well formed and perfectly healthy, so far as physicians who have looked at it can determine. Mrs. Niedlein is a small woman. Mr. Niedlein is six feet tall and weighs 284 pounds. The baby can lie comfortably in the palm of his hand.

THE RELATION OF VARICELLA TO VARIOLA.

By David Owen Thomas, M.D.

Varicella deserves attention mainly because in some instances it closely resembles modified forms of small-pox, which, though deprived of its former terror, is still the most dreaded of the exanthemata, owing to its grave constitutional symptoms, disfiguring effects, and great mortality. My contribution, therefore, though a minor note in the evening's program is an essential complement to the discussion of small-pox, for by comparison or contrast varicella is suspended in the balance which establishes the diagnosis of every doubtful case of small-pox. For the purpose of comparison, perhaps, the best service I can offer the program will be to emphasize briefly the typical features of chicken-pox, and, subsequently, allude to the anomalous cases which simulate small-pox, so much so as to make the dignosis a little shaky and somtimes controverted.

In former times when pathology had not been cultivated, cutaneous maladies derived their names from the appearance of the eruption. According to this method the first name for chicken-pox was crystalli, owing to the transparent, chrystalline appearance of the vesicles. About the beginning of the Seventeenth century inoculation was practiced to secure protection against small-pox, and, subsequently, vaccination was similarly introduced. Contrary to expectation the inoculated and vaccinated persons were not permanently immune. After an intermission of several years it was discovered that a vaccinated person would contract variola. The vesicular diseases in their names perpetuated the theories then in vogue. Variola was applied to primary small-pox where no protection by vaccination had been attempted. The disease appearing many years after vaccination in a modified form was called varioloid; and the diminutive ending in varicella indicates that it was then regarded as a minor form of variola. The term varicella was introduced by Vogel in 1764. However, it is conceded now by all dermatologists that varicella and variola have no common inheritance save in their names. This had been proven by Heberden before the introduction of vaccination. But the attempt of Hebra and Kaposi in this century to establish the identity of small-pox and chicken-pox, led Willan, Heims, and others to study the exanthemata more closely, and as a result the nonidentity of the diseases in question was demonostrated.

Symptoms: Varicella normally has a slightly longer period of incubation than variola. In a typical case the incubation period of chicken-pox is about fourteen days, but running from ten to seventeen in exceptional cases. The disease is not easily inoculable, but the cases inoculated by Steiner had an incubation period of eight days. Although the disease is benign it is pretty contagious. It protects against second attacks but not absolutely. Varicella never produces variola. It breeds true, but Bokai reports a case of herpes zoster occurring in ten days after exposure to chicken-pox. He also reports cases of herpes zoster followed by varicella. There is no well authenticated evidence that the disease is contracted in utero, like small-pox; but Hubbard recorded a case in a family suffering from chicken-pox, in which an infant one day old broke out with the eruption, followed by a second crop on the second day. In this case the disease was contracted in utero, or the incubation was only one day. However, it should be said that the mother did not suffer from chicken-pox, but her six other children did. It has been said by good authorities that varicella does not occur in adults, but there are several authentic cases reported. In the mildest cases there is no prodrome, but in rare instances the disease may manifest itself by high fever, delirium, and convulsions. Delafield says that adults will suffer from headache, fever and prostration. MacCombie also states that the initial symptoms as well as the course of the disease are much more severe than in children. Adults suffer from bachache, rigors, malaise and headache.

In children the presence of the eruption frequently is the first thing noticed, but the vesicles are preceded by superficial congested macules and papules, which, in the course of two hours, become delicately covered, transparent vesicles. The papules do not possess the shotty characteristics of variola. The vesicles are full and globular, containing transparent or slightly whitish serum, but as a rule no pus. In the mildest cases there are no symptoms, but, in a typical case, the temperaature may reach from 99°-102°F. The fever rarely begins before the eruption, but whatever fever is developed at that time may continue three or four days. There is no remission on the appearance of the eruption and a subsequent secondary fever, as in variola. When fever is more severe or prolonged it is usually due to some complication dependent upon mixed infection. The abnormal cases may have severe symptoms and temperature reaching 106°F (Heberden, Zeimmsen.)

The vesicles appear in crops. They are generally discrete and range in size from a pin head to that of a pea. The vesicles involve the scalp, neck, back, and chest, the face slightly, the arm and thigh less than the trunk, and hand and feet least of all. The mucous membranes of the mouth, nose, palate, and genitals are involved. The vesicles appear in groups running from a dozen to a hundred. When there is a group of small vesicles there is generally a larger vesicle adjacent. The vesicles in the mouth and pharynx lose their covering early and appear denuded like aphthae patches. On the face, scalp and limbs the vesicles are mostly circular, but on the body many are oval, with their long axes transversely. In typical cases the vesicles dry up, or rupture and crust over, without becoming pustules unless irritated by the underwear. However, in delicate aud tubercular children the vesicles may ulcerate and form ecthymatous sores, resembling pemphigus, and at other times become hemorrhagic or gangrenous. These conditions probably are due to mixed infection apart from varicella. The vesicles appear in successive crops, a very important point in diagnosis. The duration of the disease is determined by the number of crops which appear successively on the second, third, and occasionally even to the tenth day. The first dry and desquamate, or possibly undergo ulceration while repeated crops form. The vesicles when seen early, before rupturing, are well distended, but do not umbilicate like small-pox pustules. They are slightly smaller than the macules from which they are formed, thus leaving a narrow, pink zone around their margin. These vesicles attain their maximum size in from six to thirty hours. When the vesicles desiccate unruptured they are not unlike the unruptured vesicles of small-pox, which undergo a similar change. This desiccation and desquamation is completed in from six to fourteen days. If the ruptured vesicle ulcerates we find its base bathed with pus. Ordinarily the ulceration does not give rise to permanent scar, for, not extending through the true skin, they disappear. It is not unusual for the sore throat to cause much discomfort and the itching attending the eruption is quite distressing.

Having now briefly outlined the principal features of typical varicella, I shall proceed to consider

SOME UNUSUAL CONDITIONS AND COMPLICATIONS WHICH MAKE THE DIFFERENTIAL DIAGNOSIS OF VARICELLA AND VARIOLA MORE DIFFICULT.

Difficulties during the development of the eruption: There are two periods in the course of variola and varicella when diagnosis may be uncertain; viz., when the first case in an epidemic of variola is mild, and as yet the papular eruption lacks the pathognomonic shotty character and the vesicles and pustules have not, and may not, develop in this mild case referred to. It is a recognized observation that mild cases of variola may remain vesicular without developing pustules. On the other hand, the vesicles of varicella may be confluent, and, when they rupture, may, in debilitated children, become pustular through mixed infection. In this instance the collapsed vesicle may show central depression with more or less crusting and pus underneath, a condition not unlike that of variola. If the previous history of such a case is unknown the means of diagnosis are very uncertain.

It must not be forgotten that chicken-pox may complicate or be associated with small-pox itself, or with pemphigus, measles or scarlet fever (Whittaker). When varicella is associated with such diseases the diagnosis is obscured by the prodrome of the graver disease. For instance, the prodrome of measles may present temperature of 103° 104° for three or four days, to be followed with papular eruption, attended with the vesicles of varicella. At that stage who can predict that pustules may not appear later, which would make the case in outward appearance to conform with variola. Griffith reports a case (Brown in Twentieth Century Medicine) of pneumonia, followed by tonsillar diptheria, in which measles developed four day later, with a temperature of 104°F. Three days after the appearance of the measles varicella was discovered, and the vesicles increased into bullae, which, after rupturing, became ragged ulcers. The child died and the autopsy disclosed diptheritic membrane in the trachea. It is possible that this was the viscular eruption of some obscure infection, and not that of true chicken-pox. Undoubtedly there are atypical cases of chicken-pox in which the severity of the symptoms incline us to exclude varicella, while as yet the complication accountable for the intensified symptoms is not well marked, leaving the physician perplexed as to whether the eruption or some undiscovered complication is the formidable factor. At such a time, if the eruption is at all abnormal, it may incline the examiner to confound the case with variola.

As a rule, varicella gangrenosa (Hutchinson) is a sequel of varicella, but it may sometimes appear early before the vesicles have disappeared. Then the vesicles increase and become dark. These black spots distributed over the body may be an inch or more in diameter, while the skin underneath the crust undergoes ulceration. Intermediate between varicella gangrenosa and varicella prurigo (Hutchinson) there may be milder forms of ulceration which never go beyond the vacciniform stage, remaining superficial and stopping short of actual gangrene.

Hemorrhagic varicella (Andrew) likewise occurs in cachectic cases, and may, on account of its severity, incline the physician to exclude varicella. It is known that the ruptured vesicles of varicella may present avenues for staphylococci and streptococci infection, which, in ill nourished children, may involve the deeper structures Steiner reports a case of varicella, which, after progressing normally for six days, developed osteomyelitis, which ended fatally. Brunner's case of varicella was followed by acute suppurative arthritis of the elbow, due to staphylococcus infection. Lohr also reported two fatal cases of varicella, due to infection with the staphylococcus pyogenes aureus, and miliary tuberculosis, respectively. Purulent arthritis due to streptococci (Braquehaye) has also followed varicella.

It is foreign to the purpose of this paper to diagnose varicella from impetigo contagiosa and pemphigus. Likewise, I shall not speak of the sequelae of varicella, such as anaemia, keratitis ulcerativa, parenchymatous nephritis and cutaneous ulcerations due to tubercle bacilli and pus cocci.

Diagnosis: Since the diagnosis is the most important consideration pertaining to chicken-pox, it may not be amiss to enumerate the principal diagnostic points. I need not allude to the preliminary inquiries; viz., whether the patient has been vaccinated, and how long since. Has he had variola; what epidemics prevail; was the patient exposed to variola or varicella?

Following this historical inquiry, the most important factors in diagnosis are the following:

(I) The initial lesions; (II) the age; (III) the distribution of the eruption; (IV) the character of the eruption; (V) the temperature; (VI) the mortality of the epidemic.

(1) The initial symptoms. The incubation of small-pox is twelve days (Ashby); that of chicken-pox fourteen to sixteen days. Chicken-pox has no premonitory fever, while that of small-pox is of two to three days. In typical cases of varicella there are no initial symptoms, while in variola we have pain in the back; headache, delirium, convulsions, vomiting, rigors and fever.

(2) Age. Variola occurs at all ages, but varicella principally in childhood. In case of doubtful diagnosis in an adult the presumption would be in favor of variola, because it would be a fair supposition that the patient had had varicella in childhood. However, it must be remembered that chicken-pox in adults has been reported by Trousseau and others. I treated two brothers (ages 17 and 21) in this city, eight years since, in which the eruption was characteristic but very abundant, and the symptoms more severe than ordinary. Desquamation left no permanent cicatrices.*

(3) Distribution of the Eruption. The eruption of varicella is most abundant on the body and scalp, less so on the face, less still on arms and thighs, still more scant on forearms and legs, and least of all on the hands and feet. It is always discrete, and rarely confluent anywhere. It may appear in one or many crops. Variola is most abundant on the face and hands and often confluent. A thick eruption on the fingers has often lead to the diagnosis of variola.

(4) Character of the Eruption. In all cases of varicella the rash at first is in the form of congested spots, but owing to the symptoms being light and the development of the eruption being rapid, generally the vesicle is the first symptom discovered. The vesicles on the face and extremities are circular in form and smaller than those on the body. Many of the vesicles on the body are oval in shape, and thus differ from the eruption of variola, which is circular and more uniform in size. In varicella, the vesicle develops in twenty-four hours, whereas, that of variola is not complete under five days and becomes a pustule about the eighth, if it does not dry up into a scab. The vesicle of chicken-pox is not umbilicated, and does not become a pustule. It is also more superficial than that of variola, leaving no permanent cicatrices. The eruption of variola appears, as red, shot-like papules, appearing first on face and wrists, and, during the next twenty-four or forty-eight hours, on the body and limbs. The vesicle of variola is multilocular, and, when punctured, does not collapse as completely as that of varicella.

Varicella runs its course in fourteen days or less; varioloid in three or four weeks; and variola in four weeks or more (Kaposi).

(5) In varicella, the temperature is but slightly raised before the eruption, and does not fall with the appearance of the rash, to be followed by secondary fever. In variola, on the contrary, there is premonitory fever, 104°F. or more, which, upon the appearance of the eruption, falls to 100° or 99°F., to rise again during the process of pustulation to 102°F. in discrete cases, and 104°F. in the confluent.

(6) The degree of mortality of epidemics, also, is indicative of their nature. Small-pox is a fatal disease, and, even in mild epidemics, fatal cases occur. Varicella, on the other hand, is a benign disease, with no mortality, except in complicated cases.

As I have prolonged this inquiry I shall not now enlarge on the relation of diagnosis to quarantine and public health.

Those articles of food which contain the largest percentage of nitrates are the best builders of the muscular system; phosphates are most needed for the nerves and brain; carbonates help to form the fat. Beans, peas, oats, salmon, eggs, beef, all contain plenty of nitrates; the same foods, and, in addition, codfish, contain an abundance of phosphates; butter, rice, cabbage, corn, beans, provide the carbonates. Eggs fried in butter or codfish similarly treated, constitutes a perfect flesh-former.—The Medical World.

According to L'Echo Medical of July 2, 1899, Marguerite Boyenval, the celebrated sleeping woman at Thenelles, France, recently entered her seventeenth year of continuous slumber, the most curious case of lethargy ever scientifically observed. Now thirty-five years of age, her pallor and emaciation are extreme, although the pulse-beat is over eighty. The skin is without sensation, and the arm, if lifted, remains in the air. The only nourishment is by occasional rectal injection.

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*Commenting upon numerous cases of chicken-pox in adults reported in the Lancet, the Editor says: "Chick-pox is no doubt, a rare disease in adults in this country, probably because children seldom escape attack by it." (English) Lancet, March, 10, 1894.

PROPHYLAXIS AND TREATMENT OF VARIOLA.

By Chas. Nootnagle, M. D., Minneapolis.

Variola, according to tradition, ancient and modern writers, was one of the most fatal and dreaded diseases known, and small wonder when we consider that in the days before vaccination one person out of every three had the fact of having passed through a siege of small-pox indelibly stamped upon his countenance, and that during the 17th and 18th centuries about 10 per cent of all the deaths in European countries was due to small-pox. There are epidemics on record, during which half the people of a whole country succumbed to this dread disease during a single year.

All races, some more and some less, and people of all ages are almost equally susceptible to its contagion, even a child still in utero is not safe against being infected from its mother and passing through all the stages of the disease before birth.

From times immemorial practices were in vogue to ward off, or, at least, mitigate an attack and its results. In India temples were built, dedicated to a goddess of small-pox. People made pilgrimages to the sacred shrines, bringing offerings to appease the wrath of the goddess and purchase protection against this dread malady. Incidentally, it may be mentioned that the Brahmins in attendance at these places inoculated the people with variola virus in order probably to make the protection bestowed by the variola goddess upon her voteries all the more pronounced and secure.

Inoculation, the forerunner of vaccination, was practiced for thousands of years in the far East before it became known in Europe through the good offices of Lady Montague in the beginning of the 18th century. Inoculation, though it protected against future invasions, was too severe a measure and its results were too much like those of small-pox contracted in the usual manner, to become generally accepted as a safe prophylectic measure. It produced genuine varioli in a slightly modified form and each case so inoculated became a new source from which a general epidemic might take its origin.

Prophylaxis of small-pox may be divided into: 1st, Isolation in its strictest sense; 2, Complete disinfection of clothing and premises after recovery; 3d, last, but not least, vaccination.

A patient affected with variola, and those exposed to its contagion, should be completely isolated and kept so until a proper time; in the one case, until the patient has recovered and is properly cleansed; and in the other until all danger of the occurence of the disease is passed. Pest house isolation is by far the best for those having the disease. Here, isolation, and subsequent disinfection, can be carried out with more thoroughness than in a private house. All clothes that have been in contact with, or in the vicinity of a variolous patient, should either be burned or thoroughly boiled, or steamed under high pressure, and then exposed for a week or more to sunlight and air. The houses should be disinfected, properly, by burning four pounds of sulphur to every 1,000 cubic feet of space while the windows and doors are well sealed and left so for two days. Subsequently, the ceilings, floors and walls should be well scrubbed with a strong solution of corrosive sublimate, followed by washing with plenty of fresh water to remove the corrosive sublimate, then the windows and doors should be thrown wide open to allow the free circulation of air and admit plenty of sunlight. This should be done for at least a week before reoccupying the premises. A patient dead of variola should be enveloped immediately in a sheet impregnated with a strong solution of corrosive sublimate and then cremated without delay. I make the last recommendation advisedly as small-pox is so very contagious and the contagious matter is so very tenacious of life that it will remain virulent for months and even years, so that burial can hardly be considered the proper thing with our present knowledge of the dissemination of the disease.

Last, but not least, vaccination is a prophylactic measure. Any one who reads of the terrible scourge and dread of this disease in times gone by and sees its present insignificance must acknowledge that vaccination has done wonders for humanity. Vaccination is performed in various ways, but the best plan to pursue is to cleanse the part selected for vaccination thoroughly, then shave off the epidermis, apply sterile lymph supplied in hermetically sealed tubes and apply an antiseptic dressing.

Vaccination does not, as Jenner had hoped, confer immunity for life, but must, in order to do this, be repeated at longer or shorter intervals. A safe rule is to vaccinate when there is danger of an epidemic. Since vaccination and revaccination has been made compulsory in Germany, the mortality in that country from small-pox has dwindled down to almost nil. The effectiveness of vaccination and revaccination was impressed upon me most forcibly during conversation some years ago with some eminent German colleagues. They said that near the Russian border varioloid was of frequent occurrence, in Germany, whereas just across the border in Russia where vaccination is not, or rather, was not at that time compulsory, variola in its old time virulence and epidemic form was of frequent occurence. The epidemics were formidable, very fatal, and as much dreaded as of old; whereas; those few cases occuring on the German side, contracted in all likelihood from their neighbors just across the border, were regarded as insignificant, rarely proving fatal or leaving its victims much the worse as far as facial beauty was concerned. If authentic statements and accurate statistics, as are furnished by the Germans in particular, and by most European countries in general, are not enough to convince any "doubting Thomas" of the efficacy of vaccination, then all argument is useless.

The treatment of small-pox is purely symptomatic. The patient should be kept in bed in a large well ventilated room, at a temperature of 65 to 70°F. His diet should consist of fluids, gruels, water, seltzer, etc. When the temperature of the patient shows a tendency to go above 103°F. sponge baths should be resorted to. A thousand and one remedies have been used and vaunted to the skies in preventing pitting, the especially dreaded sequel of small-pox to the fair sex, but we have finally arrived at the conclusion that continuous wet antiseptic corrosive sublimate dressings, applied after a vesicle has been opened to those parts upon which it is desired to prevent pitting, are the best. But the best prevention of pitting is vaccination. The discovery of vaccination by Edward Jenner in 1796 constitutes one of the greatest epochs in the history of medicine. It has saved more human lives than any one other discovery in medicine up to the present time. It has transformed one of the most dreaded and fatal diseases into a mild affection known as varioloid, and has given to humanity a priceless gift, although not accepted nor appreciated as such by all.

GLEANINGS.

SMALL-POX AND VACCINATION.

An exhaustive editorial in the Medical and Surgical Bulletin says:

"By consulting the best medical literature in regard to this subject, we have reason to believe that small-pox was first developed in the earliest ages of which the human family has any record. The disease probably originated in China, India and the adjacent countries of the Asiatic continent, then spreading over Europe and America along the lines of commerce and population.

"Perhaps the earliest account of its ravages can be traced to the writers of the latter half of the sixth century, but it was not until the ninth century that it was accurately described by an Arabian physician of Bagdad. His description, however, clearly set forth the views of an Egyptian physician, named Ahron, who wrote in the sixth century.

During the tenth and eleventh centuries the remarkable political and social changes in Europe resulting in the Crusades, contributed largely to the spread of the disease and to the occurrence later of decimating epidemics, which became vertiable scourges, sometimes destroying the entire population of the largest cities.

"Small-pox is believed to have been introduced into America by the Spaniards early in the sixteenth century.

"As to the primary origin of this disease, probably the most virulent of all the contagia in its effect upon the unprotected subject, we have no historical knowledge; the first cases of the disease must, therefore, be classed with those of spontaneous cow-pox.

"At the present time it is regarded as being directly or indirectly transmitted from individuals affected with a similar disease, but as yet no bacteria or germ has been proven to be the cause of the disease. It is conveyed in the secretions and excretions of the body. The pus of the pustule is the most fertile source; the dust coming from the dried pus scales is the more common medium of its distribution, it being inhaled, therefore the lungs are the most frequent avenue of inoculation.

'Small-pox is an acute, febrile, contagious and systemic affection, preceded by an incubation period, and especially characterized by an eruption which passes through the successive stages of papule, vesicle, pustule, desiccation and desquamation, and terminating either fatally or by complete recovery, with or without sequelæ in the form of multiple, circumscribed and superficial cicatrices.

"The contagion is very tenacious, sometimes remaining dormant for months in clothing or hangings. It affects all ages; even the foetus in utero may acquire it from the mother. No sex or race is exempt. The negro is particularly prone to the disease.

"Small-pox is more prevalent during the winter months. One attack as a rule confers immunity.

"The essential morbid anatomy of small-pox is that of the eruption in all its various stages and modifications. The pustule begins in the rete mucosum, the center being a focus of coagulation necrosis; the reticular spaces about it are filled with serum, lucocytes and fibrin ferment. If the process does not go deeper recovery takes place without pitting. But in the more severe cases the papillae of the true skin are involved, causing a loss of tissue, and resulting in the formation of a scar.

"Incubation is said to last from seven to fifteen days. The patient may feel perfectly well or may suffer from malaise, anorexia, languor, insomnia and allied symptoms. If observed closely during this stage, the face will be seen to present a peculiar pallor resembling sallowness.

"The symptoms which characterize the stage of invasion, which usually lasts three days, and is the time betwen incubation and the appearance of the first cutaneous lesion on the surface, or chilliness, accompanied by a sensation of creeping, usually intense headache, violent aching pain in the back, the temperature rises rapidly to 103 deg. or 105 deg. F., the pulse is rapid, hard and strong at this stage, and in children delirium may be present.

"The prodromal rash occurs about the second day, and is a diffuse, scarlatinous rash, dark red in color, paling under pressure, but does not leave a white line if the finger nail is drawn quickly over the skin, as in the scarlatinal rash. It is usually confined to the abdomen, inner surface of the thighs, or the lateral region of the thorax and axilla.

"Upon the subsidence of the stage of invasion, the exanthem of the disease, as a rule, appears. This is usually on the fourth day. The distinctive eruption first appear in the shape of small red spots, first on the forehead and wrists, but becoming general in the first twenty-four hours. The eruption is pin-head size, firm, conical, discrete, coherent or confluent reddish papules. At this stage it resembles very much the rash of measles, but in another twenty-four hours papules have become very much harder, and feel not unlike shot imbedded in the skin.

"When the eruption appears the fever falls, and the patient feels comfortable.

The pock mark is usually mature by the sixth day of the eruption. It is pea-sized and globular in shape, and is umbilicated, this being the most characteristic feature of the eruption. At first it is filled with clear or slightly turbid serum. By the eighth day it becomes pustular and the umbilication disappears.

"Upon the appearance of the pustule the secondary or suppurative fever begins, ranging between 101 deg. and 105 deg. F., and is accompanied by the usual signs of fever. During its continuance, from the eighth or ninth to the eleventh or twelfth day of the disease, the patient is in a deplorable and critical condition. Pain, due to the tension in the inflammed parts, is severe, and the patient usually lies conscious, but in a stolid apathy, listlessly accepting the services of his attendant. In more severe cases delirium of a low or high grade may be present.

"On the eleventh or twelfth day of the disease the pustules become dry. By the fourteenth day they are converted into crusts, which drop off, leaving in mild cases only a simple discoloration. In severe cases an ulcer is left which, when healed, leaves a pit.

"The most severe variety of small-pox is the hemorrhagic form, of which there are two varieties, the pupura variolosa and the variola hæmorrhagica pustulosa. Of these forms we see very little, as the patient dies in from two to six days, sometimes before the eruption makes its appearance.

"A third variety is varioloid, which is small-pox modified by vaccination or a previous attack of small-pox. All symptoms are rendered very much milder.

"We now come to a very important subject, one that should be of interest to every practitioner, that of vaccination for the prevention of small-pox. The local and general symptoms resulting from the introduction into the blood of man of the contents of the vesicle of kine-pox, or small-pox as occurring in cattle, is called vaccinia, or vaccine disease.

"The communication of small-pox to prevent the same reaches back into antiquity. In the Sanscrit Vedas we find mention of the fact that the Brahmins employed this method for the prevention of small-pox. They employed pus procured from small-pox vesicles a year previous. Their method of inoculation was not dissimilar to our method of the present day. They first rubbed the place selected for operation until the skin was red, then made several scratches with a sharp instrument, and laid upon the freshly prepared place cotton soaked in the variolus pus, moistened with water from the sacred Ganges. Careful hygienic regulations were also carried out. Among the Chinese 'pock-sowing' was practiced. As far back as ten centuries before Christ, the Celestials saturated pledgets of cotton with various pus and introduced them into the nasal cavities of children.

"The Circassians and Arabians used needles for inoculation. In some parts of Northern Africa inoculation by means of incision between the fingers was practiced. And among some of the negroes the inoculation was done in or upon the nose.

"In 1714 Timoni of Constantinople reported that the custom had long been naturalized in that city, and was practiced by old women, instructed in the art, who regarded it as a revelation of Saint Mary.

"In 1721 Lady Mary Wortley Montagu, wife of the English embassador to Turkey, returned to England, being the first to introduce the practice there. Her son was inoculated in Constantinople by Maitland, and later her daughter was also inoculated. At this time Maitland experimented upon criminals. It proved very satisfactory, and after this the procedure was looked upon with more favor. The Prince of Wales and his sisters were inoculated by Mead, and the practice of vaccination was speedily adopted in America as well as in England. It met with general favor in Germany, and a little later was practiced in France.

'The first inoculation with cow-pox was performed in1774 by an English farmer of Gloucester, named Benjamin Jesty. It seems to have been a common practice, especially among the dairy people.

"However, the man that subjected the popular impression in question to the test of scientific investigation, proved the truth and demonstrated its value to the world was Edward Jenner, an English country physician. He performed the first vaccination in 1796, upon a boy, using matter from the hand of a milkmaid, who had been previously infected by cow-pox.

"The first vaccination done in the United States was performed by Dr. Waterhouse of Harvard, in 1800, upon four of his own children.

"The transmission of humanized virus through the system of the cow, and its subsequent employment in vaccination of human beings, was first practiced by Troja (1747-1827) of Naples. At the present time it is almost the universal practice to use the lymph from the cow. The chief reason for using animal lymph is the fact that all danger of communicating other affections, especially syphillis, is avoided, and it is also believed that protection is more certainly assured. In this country the more usual method of preparing the lymph for use is to allow it to dry on ivory points or quills, or it is collected in capilary tubes and sealed.

"After vaccination a slight redness appears, but rapidly subsides. About the third day a red elevation occurs, developing into an umbilicated vesicle filled with a transparent viscid fluid surrounded by a red areola.

"By the sixth day the vesicle presents a shiny, silvery appearance, and by the tenth day the pock has reached its full development, being umbilicated, as in genuine small-pox. Itching is intense, and in adults it produces an almost irresistable desire to scratch, while in infants it produces fretfulness.

"The disease begins to decline on the eleventh or twelfth day, and by the fourteenth day the vesicle is covered by a dry, brown scab, which drops off about the twenty-fifth day, leaving a pitted scar, very distinct at first, but gradually becoming paler than the surrounding tissue.

"That vaccination really does protect against small-pox observation has taught the whole civilized world. No one need be left in the dark in regard to this point, as the statistics are so plain it is impossible to mistake their true meaning.

"In Sweden the average number of deaths from small-pox per annum, per million inhabitants, was, before the introduction of vaccination, 1,973; during the period of optional vacination, 479. After vaccination was made compulsory this frightful death rate declined to 189 per 1,000,000.

'During forty-two years of duty at the London Small-pox Hospital Dr. Marson has never observed a single case of small-pox in the officers and attendants of the hospital, who are compelled to be revaccinated when they enter the service, and who are constantly exposed to the infection.

"In the Bavarian army, where vaccination was compulsory, there was not a single death from small-pox nor a case of unmodified small-pox from 1843 to 1857.

"In the State of Michigan, by making a comparison between the five years preceding the establishment of the State Board of Health with the fourteen years (1874 to 1887) since its existence, allowing for increase in population, shows the death rate of small-pox has been reduced 6.62 persons per year 100,000 inhabitants. Vaccinnation in Michigan is not compulsory, but vaccination is done without cost, being paid for by the city, village or township, as the case may be.

"In New York City much the same plan has been carried out since 1876. Before this date the deaths from small-pox averaged 59.57 per 100,000 per year. Since this date they have averaged 8.38 per 100,000 per year, and this average is yearly being reduced.

"From the foregoing facts it is not hard to see that with compulsory vaccination it would be only a short time before small-pox would be a rare disease, but unless such measures are universally adopted and enforced by suitable legal enactments the disease must from time to time threaten the lives of our citizens, and the medical profession will have no other alternative than to fight it with the best means we have at hand.

"When small-pox appears in a community the chief aim should be to prevent its spreading. This is best accomplished by isolation of the patient. This can be done in only one way, and that is by removing the patient to a hospital especially appointed for such cases. In every city a permanent, well-equipped institution of this kind is an absolute necessity. It should be located remote from the thickly settled parts, but at the same time it should be easy and ready of access.

"The hospital should be provided with closed ambulances for the transportation of patients. Private or public conveyances should not be used for this purpose.

"When a case of small-pox occurs in a family, all the members of the family should be vaccinated at once, and the patient removed to the hospital. All persons known to have been exposed to the disease should be quarantined for fourteen days. If the patient is to be treated at home he should be isolated as much as possible. Usually a room on the top floor is preferable, and no one should be admitted except the nurse or attendant, who has been previously vaccinated. The clothing of the attendant should be of such material as can be readily boiled. He should not come in contact with any one while engaged with the case, and when leaving he should bathe thoroughly and don new clothes. The physician should take every precaution to prevent being the means of communicating the contagion.

"Another means of preventing the spread of small-pox is to apprise the public of the particular locality where the disease exists.

"Thorough disinfection of all articles used about the small-pox case is a highly important prophylactic measure, and should be scrupulously carried out.

"Bodies of persons who have died of small-pox should be wrapped in a sheet saturated with corrosive sublimate 1 to 500, or with a solution of chloride of lime, and be buried at once.

"After the sick chamber has been vacated by the patient, either by recovery or death, every article of no value should be burned, the others should be rigidly disinfected and the entire house well fumigated. One cannot be too careful in trying to prevent the spread of this dreadful disease."

THE SMALL-POX SITUATION.

(Southern Practitioner.)

During the last few months much has been given out in the secular press and orally as to the existence of small-pox in the city of Nashville. One letter from a recent correspondent in an adjoining state, stated that he had learned that there were over 600 cases here. The facts are, that notwithstanding the disease has existed in every contiguous state during the past six months, as well as in other localities in this and other countries with which we are in almost daily contact, as well as in quite a number of other cities, towns and rural districts in this State, there has in that time been less than fifty cases in Davidson County, of which this city is the county seat.

From the Public Health Reports of the Marine Hospital Service of February 9th, we learn that in Little Rock, Ark., with a population less than one-third that of Nashville, there has been a total of 160 cases, with 40 cases then under treatment. Our health authorities here have given publicity through the daily press of every case that has occurred, stating color, sex, and from what source derived; with the facts that nearly every case has been contracted elsewhere, coming here after exposure or after the disease had developed, the majority by far being with our colored population.

An unusual and most remarkable feature noted here, as in other places of the existence of the disease, which cannot be deemed epidemic here, is its extreme mildness, and a most marked limited mortality—only one death so far having occurred here. This unusual mildness has been possibly an important factor in even the slight spread of the disease we have had; quite a number of the cases having been detected on the streets, or casually, the disease in so many instances having been so mild from its incipiency as not to necessitate confinement to bed or early resort to professional advice.

In regard to diagnosis, a few words may be at this time pertinent; and while it is of great importance that every case should be correctly diagnosed at the earliest moment possible, and proper precautions taken for preventing its spread: on the other hand, it is alike necessary that the diagnosis should be correct and demonstrable beyond the shadow of a doubt before too harsh or unnecessary means of individual restraint should be resorted to. Granted that it is best to err on the safe side, and no individual should resist or even murmur at reasonable precautions taken to protect the community at large to say nothing of individual relatives and friends, correct diagnosis should be established at the very earliest possible moment.

Owing to the infrequent occurrence of the disease during the last quarter of a century, due unquestionably to the great and almost unerring prophylactic, but few of the general practitioners of to-day have had opportunities for its clinical study; and its modification by vaccination in such cases as do occur thereafter, as well as the peculiar and unusual mildness everywhere in this country during its present existence, together with variations that inevitably occur, have made the question of diagnosis one of not the easiest solution, especially in the early stages of any given case.

No clinician, no matter how great his experience or diagnostic ability, can in every instance, rely upon a correct diagnosis at the first visit in every case, but with a reasonable length of time for careful observation, this ought to be established, earlier in some cases than in others; yet in no case should a doubt remain after the fifth day of the eruption. By this time, if not earlier, some of the unerring and unequivocal diagnostic factors will have shown themselves in every case.

The disease is most frequently confounded with varicella, or chicken-pox, which, with quite a number of other cutaneous manifestations seem always disposed to become unusually active whenever small-pox develops in a locality. This may be only apparent and not real, and the existence of small-pox may possibly emphasize other cutaneous phenomena that would not be noticed at other times. In fact, it has not been so very long since chicken-pox and small-pox were regarded as identical—yet one does not confer immunity from the other, and varicella is not interferred with by vaccination, and other features now observed show them to be distinct and different. The peculiar natural history of varicella, its want of a definite stage of invasion, and the character of the eruption, coming out in successive crops, first upon the trunk or chest, the pyrexia if marked, not disappearing with the coming out of the eruption, the eruption beginning as small red acuminated spots, the redness disappearing on pressure, becoming round or oval,transparent,tense vesicles in a few hours,soft and not hard, they may become umbilicated, but if so, within twenty-four hours or less of their appearance usually superficial, their contents escape upon puncture, being unilocular, their fluid contents become opalescent, but not purulent if uninterferred with, beginning to undergo dessication in twelve to twenty-four hours after their appearance make a picture that clinically should afford a correct diagnosis in twenty-four or at least forty-eight hours.

The headache, backache, pyrexia of forty-eight to seventy-two hours gradually increasing in degree, as the eruption develops, its sudden subsidence with a full coming out of the eruption, the eruption possibly showing itself as macular within twenty-four hours, but becoming papular after forty-eight or seventy-two hours of fever, vesicular in three to five days later, and pustular on the eighth day of the eruption, umbilication showing itself by the fifth to eighth day in some of the vesicles, the hard, shotty sensation communicated to the sense of touch during the papular and vesicular stage, collapse not occurring on puncture of the vesicles, the macules or papules showing first on the forehead, at the edge of the hair, next upon the hands and wrists, being as a rule more developed on the exposed points of the skin than elsewhere.

In the mild cases that have occurred here the headache, backache, and other phenomena accompanying the pyrexia, as well as the fever itself, may have been in many instances but slightly marked or not noticed, yet the general character of the eruption in some of its general particulars and phases have not been wanting. The cases have varied in considerable extent as to the characteristics laid down in the text-books, yet just as there are large and small horses and horses of different colors and shapes, yet the general characteristics are so apparent in every horse that we can have no doubt as to the species no matter how great the differences presented—so of the present existence of small-pox certain general characteristics have been present in every case, that would enable correct differentiation after a careful observation for a reasonable length of time, of from there to five days or less.

The macular eruption that sometimes appears in cerebro-spinal meningitis, can only mislead or give a doubt for twenty-four hours or less. The primary eruption of small-pox may resemble measles, but the longer duration of the initial fever before its appearance, and the second rise of temperature at this time which may have declined in measles, and the eruption soon becoming papular in small-pox, its secondary fever not appearing until pustulation, soon determines between the two. The macular eruption may at first present the appearance of scarlatina form rash, but it soon becomes papular. The headache, pain in the back and limbs, preceded or not by a chill, in malarial, typhoid, and other fevers can mislead but for a short time, the eruption soon resolving any doubt. The red efflorescence of erysipelas is circumscribed and indurated, and is not succeeded by papules and vesicles, and if blebs do appear they are quite different from even the vesicles in a confluent case of small-pox.

Finally, the papular syphilides may for a short time present a close resemblance to small-pox in some of its stages, but a short time will suffice for their differentiation, as well as contagious impetigo, which is afebrile, and consists of vesico-pustules on apparently healthy skin.

In conclusion we would suggest a careful and close study of the clinical history from the outset, a thorough observation of the eruption at not too long range from day to day, with a knowledge of the general characteristics as laid down in the standard text-books as being all sufficient to determine a correct diagnosis, which should be done definitely, satisfactorily and unquestionably by or before the fifth day of the eruption; the contagion, in my opinion, not existing until the eruption is marked and characteristic, either as papule or vesicle, and increasing in virulence with the development of the pustular stage and lasting until complete dessication, desquamation and thorough disinfection.

HOW TO SECURE SAFE AND SUCCESSFUL VACCINATION.

A number of methods have been used in vaccinating, the following being one of the simplest and most successful:

Cleanse the site of inoculation with soap and water, and carefully dry.

(Do not use bichloride solution, carbolic acid, or any other disinfectant, unless there are special reasons for doing so—in which case all traces of such disinfectant should be removed with sterilized water before vaccinating.)

Take the small rubber bulb in the left hand, with the neck of the bulb pointing to the left. One of the sealed glass tubes held in the right hand is inserted into the opening in the top or rounded end of the bulb, and, with a slight rotary motion, pushed through until the bulb is impaled and resting at about the center of the tube. The end of the tube to the right is then broken off and the tube pushed on through until the open end is well within the cavity of the bulb. Now break off the other end of tube, and lay the tube aside until the site is scarified.

Scarify a single small area—say about one-quarter or one-third of an inch in diameter—using for this purpose almost any sterile steel instrument, such as a needle, scalpel, or one of the many instruments especially designed for this work.

To apply the vaccine, hold the bulb between the thumb and second finger, the tip of the index finger covering the air-hole at the top, when slight pressure upon the bulb will force the vaccine out upon the scarified area. The vaccine should then be rubbed in thoroughly with the flat side of the instrument, with an occasional slight scratching or pricking with the point, in order to facilitate penetration and absorption.

Ample time should be given for the lymph to dry, and the clothing should never be replaced until the site presents a glazed or varnished appearance. No dressing is required except in cases where very rough or dirty undergarments are worn, and then a piece of clean, soft linen or cotton is the most suitable.

A FEW DON'TS FOR THE OPERATOR.

1 Don't prepare the site by washing with antiseptic solutions. Or if this is thought necessary—

2. Don't fail to rinse thoroughly with sterilized (boiled) water, and dry.

3. Don't draw blood if you can help it. A gentle oozing of serum gives much better results.

4. Don't fail to rub the vaccine thoroughly and persistently into the abrasion.

5. Don't replace the clothing until the vaccine is thoroughly dry.

6. Don't apply antiseptic dressings. (Many of our most successful vaccinators never use any dressings except in cases where there is danger of infection from the environment or uncleanliness of the patient.)

7. Don't expose vaccine to extremes of temperature. High temperatures spoil it.

8. Don't expect to find a swollen arm, indurated glands, high fever and a suppurating ulcer—these belong to the old-fashioned means and methods of vaccinating.

9. Don't accept the word of the patient or parent as to the success or failure of the process. Examine the case yourself, and if you find a typical vesicle—or the remains of one or more that may have been ruptured and emptied—assure the patient that he is protected against small-pox.

10. Don't be in a hurry about passing judgment upon a "take." Sometimes the vesicles are delayed in their development.

With these directions strictly followed there can exist no reason why every vaccinationshould not be a success.—Ex.

VACCINATION.

Cleveland Jour. of Medicine.

A most amusing absurdity threatens to occur in a town not far from Cleveland. The health officer of the town has been so unfortunate as to experience a large proportion of unsuccessful vaccinations. He attributes this to the poor quality of the virus that he has employed, although other physicians in the same town, using the same make of virus bought from the same drug stores, have experienced successful results, In order to show his authority, his contempt for the opinion of his professional brothers, and his destestation of the fraud that he alleges has been practiced upon him, he now asserts that he will sue for damages the druggists who sold the virus, and that he will compute damages at the rate of 75 cents for every unsuccessful vaccination. Beyond making himself additionally ridiculous, it is difficult to see any result that he may achieve from this procedure.

Vaccine is a perishable commodity, and care in its employment is imperatively demanded if successful results are usually to be attained. Experience suggests that probably a vaccination may fail in a susceptible subject, if the area of operation is cleaned with a strong antiseptic, for the virus will not stand contact with an antiseptic. Many failures are also due to lack of care in storing the vaccine in the drug store. The glycerinated virus, which is undoubtedly the best, should always be stored in a cool place, for even at so moderate a temperature as 70°F. it may become spoiled. Then of course the virus must be fresh, as it deteriorates with time. Another possible source of failure to secure a positive result from vaccination lies in the method of dressing the wound immediately after the operation. Undoubtedly an antiseptic dressing applied too soon may destroy the activity of the virus. Yet the glycerin is so slow in drying that the operation would be made too tedious by waiting until the virus had dried in sufficiently to warrant the application of a protective dressing.

The safest technique for vaccination seems to be about as follows: Scrub the arm thoroughly with soap, brush and hot water; dry it with a clean towel; then wash the skin with alcohol or ether; after applying the virus to the wound, place around it a perforated piece of one-quarter inch gummed felting that will keep from contact with the wound the overlying surgical dressing. As this ring is not usually very comfortable, it may be removed in a few hours, and the vaccination wound simply covered with a clean protective dressing. With this technique, and with vaccine from a reliable laboratory, not many failures will occur among suceptible cases.

CLINICAL EXPERIENCE WITH VACCINATION FOR WHOOPING COUGH.

Dr. W. G. Law, of Glidden, Wis., writes to the Western Clinical Recorder on the above topic as follows:

"Our town has suffered from an epidemic of whooping cough during the past few months which gave an opportunity of verifying the observations noted in the May number of the Recorder to the effect that whooping cought might be cured by vaccination for small-pox.

"Of ten cases vaccinated, in six instances there was decided improvement apparent in the number and severity of the paroxysms the sixth day after vaccination, the disease teminating in three weeks (average) without any apparent reaction to the vaccine and without the formation of the typical vaccination vesicle. This would suggest, to my mind, double vaccination at once or revaccination after the first week. In the four unsuccessful cases points were used, in the others glycerin lymph.

"I encountered some considerable opposition to the method of treatment at first, owing to its novelty, otherwise I might have had a large number to report, but the results were so satisfactory in the majority of instances in which it was employed that I would have little difficulty in employing it largely in case of another epidemic. My experience with it leads me to recommend the procedure to the profession, so inefficient are the usual methods of treatment of pertussis."

To destroy pin worms inject per rectum cod-liver oil, pure or made into an emulsion. By mixing with the yolk of an egg it is non-irritating and will do good work.

VACCINATION.

A safe rule is to vaccinate in infancy, a second time when the child starts to school, a third time at the age of puberty, and a fourth time between 20 and 25 years of age, according to W.H. Wilder in the Alabama Medical and Surgical Age for February, and in this way he thinks that immunity can be established for life.

Morrow's mortality rate is, in the un-vaccinated 35 per cent., one good scar 7.73 per cent., two good scars 4.7 per cent., three good scars 1.95 per cent., and four or more scars ½ of one per cent.

Antiseptics are of no special use, simply wash the place with soap and water.

Do not draw blood, if you do dry it off before applying the lymph.

He thinks a larger amount of virus necessary in secondary adult vaccination than in children for the first time.

The mortality of the complications of vaccination is given as one in 65,000 of all which complications are preventable.

The vaccinated limb requires little care other than some mechanical contrivance to protect the scab. For excessive inflammation he recommends hot carbolized solutions and a powder of equal parts of boric acid and acetanilid to dust on the granulating wound.—Charlotte Med. Journal.

VACCINATION AND VACCINE.

Vaccination is such a simple procedure that few men think it worth while following any definite rule consequently the method varies with every operator and failures are more or less common.

Success depends upon the method and the vaccine. The very best vaccine may fail to take on account of the faulty manner of applying and the most painstaking care in the vaccination will not compensate for the use of inert virus.

Antiseptic solutions affect the potency of the vaccine so don't use them on the arm. If you must, be sure and wash off with plain sterile water before applying the virus.

Do not attempt to do a venesection as a preliminary operation as the vaccine will take much better if no blood is drawn. When the serum begins to ooze freely from the abraded surface apply the virus and prick it in with a knife or ivory point. Avoid antiseptic dressings if the patient will promise to wear clean clothes.

See that the sleves are loose and pull them down after the vaccine is thoroughly dry.

As regards the material, use only the aseptic glycerinated lymph and be sure that it has been properly cared for as exposure to high temperature will spoil the very best. The sorest sore arms are not due to the vaccine but to the bacteria mixed up with it and this severe reaction is not only avoidable but is not any more protective than the sterile lymph.—Charlotte Med. Journal.

THE TECHNIQUE OF VACCINATION.

Maritime Medical News.

The ridiculous position in which a physician "in a town not far from Cleveland," (as told by the Cleveland Journal of Medicine), has placed himself, serves to arouse a suspicion that all practitioners of medicine do not possess a sufficient knowledg of the method of effecting a successful vaccination. The physician in question, who, by the way, is the health officer of his town "has been so unfortunate as to experience a large proportion of unsuccessful vaccinations. He attributes this to the poor quality of the virus that he has employed although other physicians in the same town, using the same make of virus, bought from the same drug stores, have experienced successful results. In order to show his authority, his contempt for the opinion of his professional brothers, and his detestation of the fraud that he alleges has been practiced upon him, he now asserts that he will sue for damages the druggists who sold the virus, and that he will compute damages at the rate of 75 cents for every unsuccessful vaccination. Beyond making himself additionally ridiculous, it is difficult to see any result that he may achieve from this procedure."

With a view to the prevention of so humiliating an exhibition of ignorance on the part of any of our readers, we have thought that it might not be amiss in us to say a word or two upon the technique of vaccination. We have already made editorial reference to the advantages possessed by the glycerinated lymph over the old time preparations, which often led to the production of somewhat alarming inflammatory conditions and thus caused much suffering which was quite unnecessary. The proper treatment of the lymph with glycerine kills the pyogenic bacteria, while it does not lessen the potency of the vaccine, and vaccination by such lymph causes the formation of a typical vesicle which is unattended by the pain and illness which were such regular attendants upon a successful veccination with the older lymph.

In order to secure success in the use of the glycerinated vaccine, certain simple rules should be followed. In the first place the vaccine should be as fresh as can be procured, and it should be kept in a cool place while awaiting the opportunity to use it. Then the site for the inoculation should be prepared by scrubbing with plain water and soap. If an antiseptic is used, it should be thoroughly removed with sterilized water before scarifying, as otherwise the potency of the vaccine may be destroyed. The skin should be carefully dried before scarifying, and an endeavour should be made not to draw blood in the operation. A gentle-oozing of serum is the proper result of the scarification. The vaccine should then be rubbed thoroughly into the abrasion, and allowed to dry completely in the air. It is not usually necessary to apply any dressing, but if this be thought desirable it should be a dry sterile material free from antiseptic. When there is objection to waiting until the vaccine is quite dry—and glycerinated lymph dries slowly—the application of some such protective as a bunion plaster will usually prove satisfactory.

A successful result will be indicated by the appearance in due time of a typical vesicle. A much swollen arm, with indurated glands, high temperature and a suppurating ulcer, should not be looked for, and the occurence of such symptoms in these days indicates either a bad preparation of vaccine or an imperfect technique. Observance of these rules should lead to a large proportion of successful vaccinations among susceptible subjects.

Original Articles.

*REMARKS ON JOINT-DISEASES.

By Knut Hoegh, M.D., Professor of the Principles of Surgery and of Clinical Surgery in Hamline University, Minneapolis.

(Concluded from last issue.)

As we do not necessarily have a similar infection of the joint as of the bones we may have a serous arthritis and a staphylococcus infection of the adjacent bone; we cannot well explain the joint inflammation by simple continuity. There are either mechanical elements present, a disturbance of circulation owing to the great vascular stasis at the focus, or there may be an infiltration of ptomaines with attenuated virulence.

Just as a serous effusion is seen often to result directly or indirectly from a microbe infection, so the same must be predicated in more absolute terms of purulent collections. We have already seen that in decrepid individuals a tuberculous joint may become the seat of a cold abscess. Yet, more commonly, do we find that an osteomyelitic focus in an adjacent epiphysis of it breaks into a joint and produces a sudden empyema of it. This is too well known and its mechanism is too obvious to call for more than a passing notice.

In some cases the pathogenesis is not so clear, as will be seen from the following case, which our honored President, Dr. Sweetser, has had the kindness to communicate to me:

"A.O.,age sixteen months, fourth child, parents healthy, aunts and uncles all living and healthy, one grand parent died of cancer of stomach. The child had never been sick and always strong and healthy, walking alone for three weeks. A few days ago stumbled and fell on level ground, apparently not hurt. Child perfectly well when going to bed, July 11, 1898. Next morning was lame and cried when it stood on the left leg, but could crawl around without pain. No temperature, but rapid pulse.

Physical examination: Well nourished, fat and strong. When left leg is extended the spine arches forward and pain is elicited. Some slight fulness over hip and some obliteration of gluteal fold.

Treatment: Put to bed with cold over hip, no apparatus. Up to August 20 the child was sometimes better, sometimes worse, with more or less pain and tenderness, sometimes moving the joint better than other times. But for the preceding week there was rather rapid loss of flesh, sweating, high temperature and restlessness. Temperature irregular, going to 105°F. and down to 100°F., but never normal.

Operation: August 20, at 9 a. m. Incision three inches long from anterior superior spine of ilium, outward, backward and downward. Drew aside tunea vajoræ femoris muscle and entered joint easily. One ounce of pus was discharged. Finger inserted in joint, found the epiphyseal head of femur detached, but attached to round ligament. Washed out joint, inserted large-calibre rubber drain and fixed leg with side splint, which, however, was removed the same day.

Pus examined by Dr. Corbett, consisted of broken down leucocytes, but no pus cells apparently, no tubercle bacili, but what looked like a few cocci. Three cultures were made, but they remained sterile. On the fifth day the temperature reached normal and never recurred. Wound healed about the middle of September, and shortly afterward efforts at crawling were made. On October 11, was walking easily with very slight limp, eating well, and again strong and healthy.*

My explanation of this interesting case, that under excellent treatment, made such a splendid recovery, is the following: Through the slight sprain, preceding the disease, blood was effused into the cancellous tissue of the head of the femur, producing an excellent culture-medium for pus cocci circulating in the blood; a suppurating focus was produced that soon broke into the joint; giving rise to a bacterial resorption fever that showed its derivation from pus by the highly undulating fever curve. It is stated that some cocci were found, but that cultures remained sterile. This will go to show that the cocci were very much attenuated, if the culture experiment was performed without any mishap. The presence of numerous leucocytes and few pus corpuscles speak for attenuation. In the human body pus is as a rule the result of specific pus-producing bacteria although pus has been produced experimentally in some of the lower animals by other poisons than bacterial ones.

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*Read at the meeting of the Hennepin County Medical Society, January 8, 1900.

*NOTE.—Continued in perfect health till June, '99, when had convulsirns, followed by empyema, which was treated by excision of a piece of rib with perfect recovery. Oct., '99. Is now apparently as well and strong as ever, except a slight limp.

When pus was found in this joint, that did not communicate directly with the open air, it must have reached the joint, through the circulation; this is the only explanation; this is something that takes place every day, and is well known. It was in Dr. S.'s case not tubercle bacilli but, pus-cocci, of which he also found some. This case offers to me no difficulty of explanation.

With pus in a joint we have to obey the imperative command of modern surgery, viz: we must evacuate it. In these cases we are not satisfied by simply making a puncture, we make a long incision, wash out the joint with an antiseptic solution, provide for abundant drainage and apply absorbent dressings of an antiseptic material. This is changed as soon as secretion shows through it, or pain or fever indicate retention. Under this treatment we occasionally succeed even in preserving the functional activity of the joint, although we usually must expect ankylosis. An important point in such cases is to provide for ankylosis in such a position that the limb retains its usefulness.

There is a class of cases, that I can not pass by, even in this cursory invasion of the great chapter of joint-diseases, because they are so easily misunderstood and thus treated upon the wrong principles. I have no doubt that it is just such cases that have served to prop up the various quack systems of treating joint-diseases, I refer to the neuroses of the joints falsely called hysteria of the joints. They are characterized by certain marks that prove that they do not depend upon diseases of the bones, the sacs, or the fibrous tissues surrounding the joints. Like all other nervous affections their leading feature is a disordered sensation sometimes accompanied by disturbances of a vaso-motor nature. The knee joint is the usual seat, and the two patients in whom I recognized this affection suffered from diseases of the knee. Both my cases were women, and both were laboring under a nervous strain. The first one was seen some six or eight years ago. She was a somewhat stout person, who had a great deal of responsibility. Her father had once been actively engaged in the practice of medicine, and he had, not suspecting the nature of the disease, kept her quiet for a long time, and used various external applications. The knee was not swollen, but there was on both sides of the ligamentum patella a slight puffiness. The knee had otherwise retained its normal form, but there was a slight contraction of the hamstring muscles. Asked to move the knee she said she could not do it without great pain. I sat down by her and told her not to be afraid as I was not going to hurt her, and then I began quietly to manipulate the knee, trying to direct her attention from it by general conversation. I felt how the hamstrings gradually lost their tension, and before she knew it, I had the knee straight, then I bent it, and when she got the confidence that these motions could be performed, I readily got her consent to try to walk. I led her around the room, much to her father's astonishment and delight. I made two calls to her, and a short time afterwards I met her walking on the street.

The next case was not so fortunate as I failed to recognize the condition. This patient had had considerable worry, but was of a remarkably strong physique, and seemed quite robust. She complained of pain at the inside of the patellar ligament, where I could see a slight puffiness. There was also tenderness corresponding to the internal semilunar cartilage, and I suspected a tuberculous affection of the head of the tibia of a mild nature, and, in its very beginning, I put her up in a plaster bandage and kept her limb immobilized for a long time. She finally recovered, as I suspect, rather in spite of the treatment. It was only when she later applied for treatment of the other knee for a similar affection that I suspected the true nature of the disease, began to make investigations with a view to ascertain the possible neurotic character of her ailment, that I found out the true nature of the disease. Electricity, massage and use of the limb, with such dietetic and hygienic measuser that are serviceable in neuroses speedily brought about a cure.

The characteristic features of neurosis in the joints are, aside from the general marks of a nervous disposition, and preceding nervous strain, in the first place pain out of proportion to the signs discovered by visual and tactual examination. Spasms of muscles are common, but we do not find atrophy of the limb. There is rather puffiness, often confined to the inside of the patellar ligament, but sometimes involving the whole joint and even the greater part of the extremity. The pain is usually intermittent, often of a neuralgic character, usually indicated as superficial, often worse at night. While it may prevent the patient from going to sleep it does not wake him of his sleep; sometimes it is migratory, and fixes itself now in one joint, now in another, as it did in the second of my cases. There is often greater tenderness upon light touch than upon firmer pressure; often the pain is described as a numbness or a tingling, but often again it is described as a fixed pain. The puffiness is undoubtedly of vasomotor origin, sometimes we find an urticaria like exanthema or erytematous wheats. It is evident that the diagnosis is often obscure, that it must be made by exclusion.

As far as treatment is concerned, experience has proved that rest of the joint is detrimental. A rest cure of the body always may be indicated, but the joint must be treated by active and passive movements, massage, electricity, etc. Like all other neuroses these cases prove a profitable field for the fakirs, but there is no reason why the regular profession should neglect general hygiene, message and—suggestion.

A class of cases that sometimes puzzle our diagnostic efforts are those of a loose meniscus. The typical case is easily recognized from its suddenness, the severity of pain, and its rather short duration. But I have recently seen a case of this kind where the diagnosis had not been made, although the patient had called in very competent medical aid. The difficulty in the case consisted in the secondary evolution of neuralgic pains that spread over the whole of the extremity, and had been interpreted as sciatic neuralgia. The patient had been treated by the usual external and internal remedies and massage. As she was suffering under considerable nervous strain, the neurotic character of the disease was naturally suggested, but the treatment had proved ineffective. She did not herself suspect that the pains were elicited by twisting of the leg, and it was only after I had got a very complete history of the attacks that I suspected the cause of the nervous attacks. Physical examination, however, firmly established the diagnosis.

THE CLINICAL THERMOMETER AS A GERM CARRIER.

W. L. Conklin, M.D., Rochester, N.Y., writes on the Clinical Thermometer as a Germ Carrier (Buffalo Medical Journal) in which he proves that the ordinary clinical thermometer is a dangerous germ carrrier. He has been in the habit of carrying his thermometer in an ordinary rubber case, which is filled with a 1 to 500 or one to 250 bichloride solution. The solution being renewed once in three or four days. While experimenting for the purpose of proving that a thermometer cleaned in the ordinary way is not necessarily sterile, he at the same time sought proof that a thermometer kept constantly immersed in a strong bichloride solution, as described above, is entirely free from microorganisms. The result of bacteriological examinations for these two purposes are as follows:

"Experiment A.—In May last I took the temperature of a tubercular patient with two thermometers. Both were then washed by pouring water over them, and one was returned to an ordinary case, while the other was placed in the case containing 1 to 500 bichloride. Petri dish cultures were made from both thermometers by Professor Dodge. The culture from the thermometer which had not been sterilized developed no tubercle bacilli, but several colonies of other microorganisms were found. No growth whatever could be found from the other culture, proving that the thermometer which had been immersed in bichloride was absolutely sterile.

"Experiment B.—On September 4th, the temperature was taken in the case of a child convalescing from diphtheria. The thermometer was then rinsed in water, rubbed over the blood serum of a culture tube and the tube taken to the laboratory of the health board. While no diphtheria bacilli were found, throat germs were abundant, some of them showing the characteristics of the staphylococcus pyogens albus. Evidently washing had not rid the thermometer of germs.

"Experiment C.—On October 3d, I took the temperature of a case suspected to be one of diphtheria. After removing the thermometer from the mouth, I held it under the faucet, washing it in the usual way, I then rubbed it over the blood serum as in experiment B and returned the culture tube to the laboratory.

"Following is the report of Professor Dodge: Microscopic examination showed presence of many involution forms of diphtheria bacilli, together with a number of other forms of bacteria not identified, but frequently found in throat cultures.

"Through the kindness of Dr. Keifer, I have placed a slide from this thermometer culture under the microscope for the inspection of any who may be interested. Those organisms showing irregularity of outline and staining are good specimens of Klebs-Loffler bacilli.

"Experiment D.—On October 5th, through the courtesy of the house physician of St. Mary's Hospital, I took the temperature of a convalescing case of diphtheria, using two thermometers. After taking the temperature, both thermometers were held under the faucet and thoroughly washed. One of them was then rubbed over the blood serum of a culture tube and the tube marked 'A.' The other was placed in its case, which contained 1 to 250 bichloride solution. One half hour later this thermometer was removed from its case, held under the faucet again to rinse off any bichloride solution which might adhere to it, and then rubbed over the blood serum of a culture tube which was marked 'B.'

On the next day Professor Dodge reported as follows: Culture tube marked 'A' showed no diphtheria bacilli, but an abundant growth of staphylococcus pyogens albus and numerous diplococci. Culture tube, marked 'B' shows absolutely no growth of any kind.

"To summarize: Bacteriological examination of six thermometers. Four had been washed but not sterilized. Micro-organisms, of one or another variety, were found on each of the four. Two had been washed and then placed in a case containing bichloride solution. No micro-organisms were found on either.

"If these experiments furnish conclusive proof, and I think they do, that the thermometer may be a germ carrier, if cleansed in the ordinary way; and if they show further, that by means of a very simple and inexpensive device it may be rendered sterile after each use, may I not, as the conclusion of the whole matter, urge the importance of using, always and only a thermometer which is bacteriologically clean?"

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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Annual Subscription, in advance, domestic,	**$1.00**
Annual Subscription, in advance, foreign,	**1.50**
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MASONIC TEMPLE.

APRIL, 1900.

THE PATHOLOGY OF THE COMMON COMMUNION CUP.

At a meeting of the Brooklyn Pathological Society, November 9, 1899, a symposium was read concerning the pathology of the common communion cup as viewed by the general practitioner in relation to the various infections, and, as viewed by the dentist, aurist, syphilographer, bacteriologist, the surgeon and the minister, all proceedings being fully reported in Brooklyn Medical Journal. All these papers and the discussion that followed developed strong arguments in favor of a change from the common cup generally used to that of the individual, and for many substantial reasons. It cannot be denied that the ancient custom, so thoroughly and firmly established in the churches, has a strong hold on the feelings of the communicants generally as a sacred and devotional rite that must not be disturbed; but there are other things just as sacred that should be considered, and one of them is the protection and preservation of the physical health. It must be admitted that there is both a natural and acquired aesthetic feeling that is repugnant to the promiscuous use of the same vessels for drinking purposes. So strong is this feeling that it prevents many persons from enjoying and in some instances prohibits their joining in these devotional exercises. And this being true, such feelings are worthy of respect, and a stumbling block should not thus be placed in the path of a duty which is commonly recognized as obligatory on the part of professed followers of Christ.

Dr. Edgar A. Day in his paper opening the subject for discussion, remarks that, "While libraries have been written on sanitary science, little is found in medical literature bearing directly upon this subject," and he accounts for this absence by the apparent reluctance of pathological investigators to reveal facts that "condemn a custom divinely founded and for eighteen hundred years surrounded by the tenderest and most sacred associations." He also calls attention to the fact that at one time science appeared a mighty foe to religion, but when understood, it was recognized as a helpful friend, and religious thought has been moulded to conform to the truth as established by scientific research. The church now recognizes that it must stand foremost for all that is "clean and pure and wholesome." More than six hundred churches in the United States are now using individual communion cups and not one would be reconciled to return to its former custom.

Among diseases most readily communicated diphtheria is one of the most prominent and serious. The Klebs-Loffler bacillus—the bacillus of diphtheria—gains entrance into the system most frequently, if not generally, through the mouth, and infected persons carry the germs for a long time, and they have been found in the mouths of some perfectly healthy persons. A few years ago the health authorities of New York discovered that diphtheria was being disseminated among the school children by means of the slates and slate-pencils supplied by the board of education, which were used in common and distributed among the pupils daily, and both slates and pencils were abolished. Other germs such as bacillus of influenza, pneumonia and tuberculosis are easily communicated as well as a long list of diseases furnished by the bacteriologist, many specimen germs of which are found in the mouths of otherwise healthy individuals.

A recent report of the State Board of Health of Michigan tells of the death from tuberculosis of twenty clerks in one of the public departments; and on inquiry it was found that those clerks had been handling old records that had been in the hands of a consumptive, and that he had a habit of moistening his fingers in his mouth before turning the pages of the books. The finger marks were found on the books containing numerous tubercle bacilli.

Dr. E. Howard Babcock, as a dentist, in his contribution to the symposium, gave his experience of examinations of the mouths of patients which frequently revealed conditions liable to contaminate any vessel that might come in contact with their lips. Being a common communicant himself he had often felt a natural repugnance to that portion of the service, knowing its dangers, but he thought the feeling was sacreligious—still he could not overcome the aversion. The Doctor calls attention to the fact that Boards of Health have already instituted ordinances with refernce to expectoration and concerning drinking cups in public schools, and asks "Why they should not go on and say to the churches: the health of the people must not be menaced by the common communion cup."

Dr. J. E. Sheppard, as an aurist, and Dr. James McF. Winfield, as a syphilographer, also added their testimony to the danger of communication of disease by means of the drinking cup used in common.

As we might expect from modern investigations of the various form of bacteria, Dr. Henry de Forest, makes the most elaborate and serious statements as to the dangers connected with the communion service as usually adopted. Taking the mere facts as stated in Dr. Miller's classic monograph on micro-organisms, he selects from the whole number—about one hundred—the following as the most important in so far as they are under favorable conditions the direct cause of disease:

Micrococcus of sputum septicemia.
Bacillus crassus sputiginus.
Micrococcus tetragenous.
Baccilus salivarius septicus.
Micrococcus gingivae pyogenes:
Bacterium gingivae pyogenes.
Bacillus dentalis viridans.
Bacillus pulpae pyogenes.
The pyogenic micrococci.
Pneumococcus (of pneumonia).
Bacillus Saprogenes.
Staphylococcus solivarius pyogones.
Coccus salivarius septicus.
Micrococcus Biskra (Heidenreich).
Bacillus tussis convulsivae. (Afanassiew.)
Bacillus bronchitidis putridae (putrid bronchitis).
M— and b— bacteria of Galippe (pyorrhea alveolaris).
Bacillus buccalis septicus.
Bacillus influenzae (La Grippe).
Baccilus tuberculosis (consumption).

The doctor says "These are the most common forms of pathogenic micro-organisms which are found in the mouth; but besides these there are a number of other allied forms each of which may, under favorable conditions, give rise to distinct pathological processes." One of these, not mentioned above, is typhoid fever, the bacilli of which Dr. Miller was able to discover in the sputum of the mouths of apparently healthy persons.

In the discussions which followed the presentation of these papers, and the statements of surgeons and clergymen, the feeling towards such an ancient and thoroughly established ceremony as the communion service was freely expressed, and its hold on the minds of men acknowledged, but the prevailing expression was that sentiment should give way to safety and the common communion cup should be abolished. If aught causes a brother to offend, or in other words to neglect an accepted and implied duty, that obstacle should, if possible, be removed. It is stated by one doctor that in trying to educate some of his friends to the point of using individual cups one young lady said "Yes, I always feel a little unpleasant about it, but you know, I sit well up in front where the cup comes to me first." She was asked if that was not a little selfish. It is also related that a lady and her husband, who have resided since 1861 in the Hawaiian Islands, were always served first in the communion service, otherwise the lady said, "Neither one of us would have been willing to touch it under any circumstances with the class of people who partook of the cu there." Some years ago it was the custom to allow the patients in the Charity Hospital on Blackwell's Island, New York, to attend church and partake of the communion. There were eight wards or more, both male and female—with some thirty patients in each, fully one-half of whom, it is said, were syphilitics. The matter was brought to the attention of the authorities, but they would not provide separate cups. Few persons with any sensibility or claim to refinement of feeling would be willing to join in a promiscous osculation, it is presumed, in a crowd of persons of all classes, races, and colors; but practically, that is what occurs at a communion service as now ordained where the common cup is used. The time for the passing of the communion cup has come. The individual cup should be substituted, or some safe method of service be introduced that, "All things may be done decently and in order."

SOME THOUGHTS ABOUT MEDICAL EDUCATION.

The study of medicine is a study of natural phenomena of a very complicated order. Its object is to get a scientific basis for the treatment of the various disorders to which the human body is subject. It demands in the first place a thorough knowledge of the human structure in its gross and minute features and a thorough insight into the manner in which the organism performs its functions; in the second place, a study of all the morbid changes that the body undergoes in disease and of all diseased conditions; in the third place, acquaintance with the remedies by which diseases are cured, be they internal, constitutional, local, operative, etc. It finally requires practice in use of all these remedies, which alone involves a very serious problem. It must be admitted that the requirements are very great, and that the time given to the study is altogether too short in the majority of our schools.

The primary and fundamental branches of anatomy and physiology, with the auxiliary science of chemistry and medical physics, are each so broad, that a thorough study of them all would involve an unreasonable amount of time. The judgment of each individual teacher must decide how much he considers necessary for the student. But in each of these sciences laboratory work must go hand in hand with the study of text-books. While every student ought to have dissected the whole body, we can not expect that more than a certain amount of physiological and chemical laboratory work should be performed. But some such work should be done by every student, to give him a first-hand acquaintance with some of the facts which he will find he has to deal with in practical life. Even the smaller colleges try to do some of this work, and some of them do it well. The same may be said of pathology and bacteriology, two sciences that have made such great strides forward during the later years. In all reputable colleges the students learn to prepare pathological specimens, to diagnosticate disease from what they see on the post-mortem table, and under the microscope, to discover, cultivate and inoculate bacteria. No respectable college is now any more satisfied by the students reading text-books in these sciences, but insist upon laboratory work. But it seems to us that when we get to the final studies of disease, as it shows itself in life, our leading institutions depend too much on the mere study of text-books. Not that such study is superfluous, quite the contrary; a systematic knowledge of disease cannot be acquired by any one without a study of literature; what a man can see even through years spent at a large hospital will necessarily be fragmentary. But no one can get a real conception of a disease by merely reading about it in a book, any more than one can become acquainted with a foreign country by reading about it. Too much stress cannot be placed upon this fact, and medical education must aim at teaching the student to observe nature and reason upon what he sees. But to do this, it is not enough to show patients to the class, to state what diseases they have and tell the treatment, or perhaps let the student witness operations. Each individual student must study cases, make his diagnosis assisted by the teacher, discuss treatment with him; he must follow the case from day to day. He must learn to perform the necessary examinations under the guidance of the teacher; he must learn to perform all the minor manipulations that only can be done dexterously after some practice. To do all this daily attendance at a hospital is necessary.

The suggestion is here made that each student should spend at least two hours a day in a hospital, that each one, or perhaps a group of three or four, should take each case as it comes and study and report upon it to the teacher, in the presence of the class and follow it to the end. At the same time each student, or each little group of students, should follow all the other cases in the department where they are in attendance. When they have spent a semester on internal diseases they should spend the next on surgical diseases. The juniors might act as a kind of assistant to the seniors. It is evident that the students would only derive benefit from such a system, if they had some general knowledge of pathology and medicine, when they entered the hospital; at the same time they were brought into actual contact with the diseases of which they had read, they would be stimulated to further reading.

Several conditions are presupposed in this delineation of what is thought to be a truly practical training. In the first place, time. But that is not an absolute objection as no one ought to study medicine except he sees his way to give time enough to fit himself as well as conditions allow. Nobody has the moral right to practice medicine, unless he has fitted himself properly; if he lacks mental ability, time or money, he ought to seek some other field. The next objection that might be raised would be lack of hospital material. The answer to this is, simply, that no village or small town has any right to have a medical college. In a large city there would always be enough hospital material, if it were properly utilized. Everybody having a service in a public hospital should be required to teach medical students. It is certainly an anomaly that services in city hospitals are given to anybody but teachers. The final and serious objection to the plan would be the time demanded of the teachers. But, this objection, also, can be met. In the first place really able clinical teachers should be relieved from giving didactic lectures. As it is, there is reason to believe that they do not instruct the students as well by lectures as the students could inform themselves by reading text-books, and by having quizz classes under the direction of younger practitioners, who should act as the professors' assistants. There is now very little hope for the man, or the class of men, who try to run opposition to the printing press, and that is really what professors do when they deliver didactic lectures. The professor of nervous diseases, for instance, should according to this plan only teach at the bedside, when he should guide the student by questions, suggestions and exhibitions of electrical tests, etc. To be sure this would take more time from the professor than his lecture, but then he might after he had once explained the case, and indicated treatment, leave the rest to an assistant. Still, it would be quite a demand on the professor's time, and he ought to have some pecuniary remuneration.

As the equipment of a medical school on the scale that is demanded to-day is a very expensive affair, a medical school must either charge a larger tuition or have means of its own.

KNUT HOEGH.

A LACTATING VIRGIN.

A curious case is related in Medicine Moderne (Nov. 15, 1899.) A young woman, unmarried, and who never had sexual intercourse, undertook the care, during the daytime, of an infant six months old. The child, refusing to take milk from a spoon or bottle, was placed to the breast of the girl. Not getting the desired nourishment the babe became angry, but attempts were repeated several times through the day. At night the child was nursed by its mother. For several days the girl repeated her attempts to give suck, and soon found that the act was attended by a pleasurable sensation, the babe took hold with more and more relish, and it was found that it was getting milk. The breast began to enlarge, and the young woman soon found her sleep disturbed, and longed for morning to come that the child might come to her relief. Once or twice it was kept away from her a day and she suffered severely.

"IT" IS SMALL POX.

The Minneapolis Medical Club, at its March meeting passed the following resolution:

Resolved, that the Minneapolis Medical Club go on record as recognizing that small-pox exists and has existed in Minneapolis for several months, they ask the co-operation of the public and corporations in their efforts to stamp out the disease, asking that managers of large corporations request employees who are not already immune by recent vaccination to be vaccinated.

This motion is to be inscribed on the minutes of the meeting, and to be given to the public through the medium of the local press and medical journals.

Progress of Medicine.

PEDIATRICS.

UNDER THE CHARGE OF

H. B. SWEETSER, M. D. J. P. BARBER, M. D

TYPHOID FEVER IN THE YOUNG.

Dr. A. Jacobi (Pediatrics, Dec. 5th, 1899), calls attention to the early writings on this subject, which contain almost every thing connected with it except the diazo and Widal tests, and especially to the little book of Edmund Friedrich, "Der Abdominal Typhus der Kinder," Dresden, 1856. He advises all modern and future writers on any topic connected with the question of typhoid in children to first consult this monograph, which is apt to teach the often forgotten lesson that medicine is not of to-day nor of yesterday, that there have been great and good men worth knowing before we were born, and that the history of our science and art is sadly neglected amongst us.

He calls attention to the difficulty of the diagnosis in the very young. The differential diagnosis of this disease from catarrhal fever, or influenza, or glandular fever, or intestinal auto-infection, may remain difficult through many days—even for the skilled and thinking. The fever curve is very apt to be irregular, mainly in enfeebled children, and in the presence of one of the many complications. There are even some cases in which the disease sets in suddenly with a high temperature; there are those, however, in which a high temperature is apt to be deceptive. The first symptoms may be overlooked for many a day. A cerebral pneumonia may exist for half a week or more without being recognized, until the development of the disease and careful examination clear up the diagnosis. Influenza may assume the characteristic of typhoid to a certain extent, Meningitis may be recognized if by no other symptoms, by means of a lumbar puncture and examination of the cerebro-spinal fluid. Altogether, a rather slow pulse, when not in proportion to the height of the temperature, the condition of the tongue, the swelling of the spleen and the presence of roseola, render the diagnosis secure even without the diazo and Widal tests.

In other instances, however, we arrive at a result by exclusion only. There is hardly a single clinical symptom, which alone proves the presence of typhoid fever. The simultaneous presence of many is a more perfect guide. The diazo test is nearly conclusive when tuberculosis and pneumonia may be excluded; it may be expected to be positive in ninety per cent of all the cases, between the middle of the first and end of the third week. The greatest difficulty is met with in those infants that yield few or no local symptoms, except those of septic infection only. Lymph nodes are sometimes found tumefied; their swelling in the inguinal region, however, from other causes is so frequent, that when found alone it should not count. The presence of herpes should generally be taken as proof of the absence of typhoid fever. The presence of the bacillus in the discharges would be the best symptom if we commanded a readier practical method for its discovery, provided there be other symptoms which make the case suspicious of being typhoid fever. He would utterly refuse to accept the diagnosis of typhoid fever, unless there were some one or more adjuvant symptoms, when the bacilli are present, for the same reason that he would refuse the diagnosis of diptheria, when there is nothing but the presence of the Klebs-Loefler bacilli, or that of tuberculosis when bacilli are deposited on some mucous membrane.

Regarding the antipyretic treatment of typhoid fever, Jacobi say, "The vis medicatrix naturae has been eulogized in infectious fevers. However, the wholesome influence of intense body heat on bacteria and toxins has become very doubtful and good observers, like Flügge, deny the new gospel of the increase of phagocytosis by high temperatures, absolutely. Nor is the disintegration of tissues by heat alone successfully contradicted. Thus, after all, we need not enjoy the presence of high temperature as a blessing, disguised or undisguised, and should reduce them. This much is certain, that the comfort of the patient is enhanced, and grave nervous symptoms alleviated, when the hot, dry skin becomes cooler and moist in proportion to the reduction of the general temperature."

He points out some of the dangers of the newer antipyretics, and warns us against the flash-light advertisement of the drug manufacturer; he recommends cardiac stimulants—digitalis, strephanthus, spartein, camphor, alcohol—which improve the general and cutaneous circulation, and thereby the radiation of heat from the skin. But cold water and warm water are our most reliable, and, at the same time, the safest antipyretics. Stress should be laid on the latter title, because many of the very apostles of hydrotherapy, perhaps influenced by shaky phagocytosis and toxin theories, belittle it in comparison to the nerve stimulating powers of water. Cold bathing is frequently contraindicated; it is not borne when the heart is feeble from whatever cause; for instance, long duration of the disease, complication with pneumonia, peritonitis or hemorrhages, previous bad health, or, in the adult, excesses. No stimulant given before or during the procedure is certain to counteract the paralyzing effects of the peripheral circulation. When after a cold bath the feet remain cold and the pulse small, the bath was contraindicated, and did harm. The dangers of cold bathing are not encountered in warm bathing. It is well proven that a bath of 90° or 95° F. when of sufficient duration, will reduce a temperature of 104° or 106°. Such a bath may easily be given every three or five hours, even apparently mild cases should have two or three daily from the beginning to the end of the illness. Such baths reduce the temperature, the accompanying frictions stimulate the cutaneous and general circulation, the general condition is improved, the so-called typhoid state relieved, and relapses become less frequent. Warm baths should be the principal treatment of all typhoid fevers, not to the exclusion, however, of occasional medication calculated to have similar effects. The combination of frequent and protracted bathing with proper medication will always remain appropriate, though our resources should, as we expect, be increased by sero-therapy. J.P.B.

MORBID ANATOMY OF TUBERCULOSIS IN CHILDHOOD.

George F. Still, M. D. (Pediatrics, Oct. 15th, 1899,) reports the results of post mortem examination in 269 cases, with special reference to the primary channels of infection. The lung appeared to be the primary channel of infection in 138 cases, the intestine was thought to be so only in 63, the ear in 15, the bones or joints in 5, the fauces in 2, and uncertain in 46. These figures include children of all ages up to 12 years, but only 24 were over seven years. It would appear through these statistics that invasion through the lung is much commoner than through the intestine, both in infancy and early childhood.

In 145 cases, it was specially noticed that the glandular affection in the mediastinum was more advanced on one side than on the other; in 113 of these cases the glands on the right side were more affected, while in only 32 was the affection greater on the left side. In 23 cases perforation of the bronchus by one of the causeous mediastinum glands had occured, in 21 it was on the right side, in only two on the left side.

An interesting fact which appears from the above figures is, that in 15 out of 269 cases, that is about 7 per cent of all cases of tuberculosis in children, the primary source of infection is the ear; and of these 15 cases, no fewer than 13 occurred within the first two years of life. No case of primary tuberculous disease of the ear was observed after the age of five years. His conclusions are as follows:—

(1) The commonest channel of tuberculosis in childhood is through the lung.

(2) Infection in the intestine is less common in infancy than in later childhood.

(3) Milk, therefore, is not the usual source of tuberculosis in infancy, perhaps owing to the precautions taken in boiling, sterilizing, etc.

(4) Inhalation is much the commonest mode of infection in the tuberculosis of childhood, and especially in infancy.

(5) The over crowding of the poorer population in the large towns is probably responsible for the tuberculosis of childhood, and prophylaxis must be directed to the prevention of this over crowding, the improvement of ventilation and the inculcation of the extreme importance of fresh air during the earliest years of life.

J.P.B.

Neurology and Psychiatry.

UNDER THE CHARGE OF
W. A. JONES, M. D.

TREATMENT OF CONGESTION OF THE BRAIN.

(Zur Behandlung der Gehirn-hyperaemie.)
by Dr. Sehrwald of Freiburg.

The author (Wien. Med. Wochenschr. No. 1. 1900, p. 19) describes the case of a healthy young farmer who as a result of hard work on a hot day suffered from heat-stroke. The attack began at about 8 a. m. and the patient was first seen by the writer an hour and a half later when he found him lying in a stupor from which he could be partially aroused only with difficulty. The face was red, the temperature 35.4 C (102 Fahr.), pulse very small but regular and beating 58 per minute, pupils dilated and reacting slowly, while every half minute to minute occurred severe clonic convulsions. These convulsions involved the whole body from the face to the feet but were more marked on the left side. At the end of the convulsion there would be a deep breath, then the respirations would quickly become shallow and the convulsion would be repeated. There was apparently a condition of severe congestion of the brain due to slowing of the blood current within the skull and this lessened flow gave rise to deep depression of the psychic and respiratory function, while the lack of oxygen caused irritation of the motor region and the vagus centre.

No improvement was seen from the ordinary means employed for relief of such conditions, such as cold to the head, rubbing, warm baths and hot bottles, and in spite of injections of ether and brandy, stimulation of the cardiac region and artificial respiration both pulse and respiration grew steadily worse.

Finally in order to relieve the over distended brain without resorting to bleeding wihch the condition of the heart and respiration forbade, the following very simple procedure was employed with the most favorable results. The lower half of the body and legs were wrapped in hot sheets and these covered with thick woolen blankets whereupon the skin quickly reddened and very soon began to sweat. The results were most striking as the convulsions stopped immediately and in a minute and a half the patient opened his eyes and began to understand his surroundings. The pulse rose quickly after return to consciousness and the temperature reached 37.4 C. (104.6) but soon subsided. For the next few hours the patient showed great inclination to go to sleep when the breathing would stop so that it was necessary to keep him awake for a few hours by artificial means. Except for a feeling of dullness which lasted for three days there were no after effects. W. A. J.

NEW CONTRIBUTIONS TO THE PATHOGENESIS OF BASEDOW'S DISEASE.

(Neue Beitrage zur Pathogenesis der Basedowschen Krankheit)

By Dr. Lad. Hascovec.

The author (Wien. Med. Wochenschr, Jan. 6, 1900, p. 65) gices a particularly lucid summary of the major and minor symptoms of Exophthalmic goitre (Basedow's Disease) as well as of the various theories which have been at different times held in regard to its causation. He then gives a summary of experiments conducted by himself in the Institute of Prof. Spina to elucidate the questions of its pathogenesis.

In his latest contribution to this question Moebius has declared that "Basedow's disease is a poisoning of the body due to the morbid activity of the thyreoid glands," and the varying clinical picture shows that this poison acts upon the general nervous system. Moreover the main symptoms of the affection—the tachycardia and the exophthalmos depend upon disturbances of the sympathetic nerves. The series of experiments undertaken to investigate the source and mode of action of the toxin upon the sympathetic and general nervous system gave the following results. After intravenous injections in a dog of the watery extract of the thyreoid there occurred both a transitory increase in pulse-rate and also a diminution in blood-pressure—the two fundamental symptoms of exophthalmic goitre. Theoretical considerations would indicate that the origin of the acceleration of pulse rate must depend upon one of three conditions, namely, either upon irritation of the heart muscle upon peripheral or central paresis of the vagus, or upon a direct irritation of the accelerator nerve, whose centre lies in the medulla and whose fibres after their passage through the cervical cord enter the stellate ganglion from which they pass to the heart.

The vagus nerve was first cut, thus throwing out the central influence and it was found that the increase in pulse rate still occurred, showing that this result was not due to injury of the vagus centre. The peripheral endings of the vagus were then paralyzed by atropine and again it was found that the acceleration developed, thus proving that the vagus has either no influence or only a very slight one in its production. To determine now whether the acceleration was due to the heart muscle or to the action of the accelerator nerve the medulla was first cut. Under these circumstances the acceleration did not occur, a result which shows plainly that the increased pulse rate is due to irritation of the accelerator nerve. Section of the cord in the cervico-dorsal region and removal of the stellate ganglion both gave the same result as section of the medulla, and thus a connection is established between the toxic and sympathetic theories of the pathogenesis of Basedow's disease. There is the further question of where the determining cause (Marie's primum movens) may be found, which leads to the variation in function of the thyreoid. Marie believes this primum movens to be in the nervous system but it might also lie in infection, in intoxication or in auto-intoxication.

The author concludes with the statement that "Basedow's disease never occurs without the presence of abnormal action of the thyreoid, and the mechanism of origin of its characteristic symptoms consists in the flooding of the system with a toxic material which has an almost elective action upon the sympathetic nervous system." W. A. J.

A CASE AF "FAMILY PERIODIC PARALYSIS."

By James J. Putnam, M. D.

The author (Amer. Jour. Med. Sci., Feb., 1900) describes another case of this interesting affection which showed the typical symptoms of transitory attacks complete motor paralysis, occurring without apparent cause, at fairly regular intervals, and without disturbance of sensation. Dr. Putnam discusses this and other similar cases in the light of recent work upon the subject of inhibition, making special reference to the articles by Meltzer published in 1899, and to the monograph of the Italian physiologist, Oddi, upon the general question of inhibition. He says, "If it is true that a stimulus, whether electrical or voluntary, may cause a muscle positively to relax instead of contracting, and true also, as in the case of bloodvessels of the submaxillary gland, that when the force which tends to make a muscle relax and that which tends to make it contract are set in motion together they preserve nevertheless, their individuality, no great stretch of the imagination is necessary for the conception that under certain conditions of disease the divorce between these two forces might be rendered more complete, and relaxation even with loss of electrical irritability, as in the cases of periodic palsy, be made to dominate the scene. Perhaps if we knew how to look for them the clinical history of various other neuroses would be found to present phenomena more or less equivalent to this loss of electrical reactions and arrest of spinal reflexes, and due, like them, to the action of inhibition."

In regard to inhibition in general Dr. Putnam gives the following quotation from Oddi: "The view that we find ourselves absolutely forced to reject is that which assumes the existence of centres and nerves endowed with the sole function of inhibition. Inhibition on the one hand—as dynomogenesis on the other—is a fundamental function of the nervous system, one of the two opposing forces between which the great game of life is played: the manifestation of one sort of protoplasmic irritability, of one species of excitability on the part of the nervous system. Its true nature will be known only after we have gained an exact knowledge as to the real essence of nervous force."

W. A. J.

Book Notices.

AN AMERICAN TEXT-BOOK OF SURGERY, for Practitioners and Students. By Phineas S. Conner, M. D., Frederick S. Dennis, M. D., William W. Keen, M. D., Charles B. Nancrede, M. D., Roswell Park, M. D., Lewis S. Pilcher M. D., Nicholas Senn, M. D., Francis J. Shepherd, M. D., Lewis A. Stimson, M. D., J. Collins Warren, M. D., and J. William White, M. D. Edited by William W. Keen M. D., LL. D., and J. William White, M. D., Ph. D. Third edition, thoroughly revised. Published by W. B. Saunders, 925 Walnut St., Philadelphia. Price, cloth, $7.00; sheep, or half-morocco, $8.00 net.

This standard work has held so high a place in medical colleges and among practitioners that it would seem as if little could be added to bring it up to date. The third edition, however, comes to us with a wide range of new subjects, such as orrhotherapy, leucocytosis, lumbar puncture, the forcible reposition of the spine in Potts' disease, the treatment of exophthalmic goitre, the surgery of typhoid fever, gastrectomy, and other operations of the stomach. The chapters on the surgery of the eye and ear have been omitted in the present edition, in order to prevent the overgrowth of the volume. A practitioner's library without the American Text-Book of Surgery would be incomplete.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph. D., Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Phila. Illustrated. Third Edition, revised. Published by W. B. Saunders, 925 Walnut Street, Philadelphia. Price $3.75 net.

The popularity of this work is proved by the fact that it has already reached its third edition. The work is written in a concise, clear and practical way, calculated to meet the requirements of the student and young practitioner.

AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs and Text-Books, of the Leading American and Foreign Authors and Investigators. Collected and Arranged with Critical Editorial Comments by Samuel W. Abbott, M.D., Archibald Church, M.D., Louis A. Duhring, M. D., D. L. Edsall, M.D., Alfred Hand, Jr., M. D., Milton B. Hartzell, M.D., Reid Hunt M.D., Wynatt Johnston, M.D., Walter Jones, M.D., David Riesman, M.D., Louis Starr, M.D. Alfred Stengel, M.D., A. A. Stevens, M.D., G. N. Stewart, M.D., Reynold W. Wilcox, M.D. Under the general eritorial charge of Geo. M. Gould, M.D. Published by W. B. Saunders, 925 Walnut Street, Philadelphia. Price, in two volumes, each, cloth $3.00 net; half morocco $3.75. net.

The year book for 1900 comes in two volumes, one devoted to Medicine the other to Surgery, a change which cannot fail to be appreciated by the readers of this well known work. The present issue maintains the high standing of its predecessors, and gives a resume of the progress of the Medical Sciences which no practitioner can afford to dispense with, who aims to keep abreast with the times.

ESSENTIALS OF SURGERY. Together with a full description of the Handkerchief and Roller Bandage. Arranged in the form of Questions and Answers. Prepared especially for students of Medicine. By Edwin Martin, A. M., M.D., Clinical Professor of Genito-Urinary Diseases in the University of Pensylvania. Illustrated. Seventh Edition, revised and enlarged, with an appendix containing full Directions and Prescriptions for the Preparations of the various Materials used in Antiseptic Surgery. Also several hundred receipts covering the Medical Treatment of Surgical Affections. Price $1.00 net. W. B. Saunders, 925 Walnut Street, Philadelphia.

This little volume for the use of students is wide in its scope of treatment of the subject of surgery, and an invaluable aid to the beginners in the study of medicine. The volume has had a thorough revision and is strictly up-to-date, with numerous changes and additions.

SCATTERED LEAVES FROM A PHYSICIAN'S DIARY. A series of satirical sketches from real life, reflecting more or less upon the men who control it, by Albert Abrams, A.M., M.D. (Heidelberg), F.R.M.S., San Francisco, author of "The Antiseptic Club," etc.; pp.60, with frontispiece; 50c. St. Louis, Mo. Fortnightly Press Co., Publisher.

These letters that have appeared from time to time in the Fortnightly have charmed many readers, and all who have missed chapters may now have an opportunity to secure all in convenient form.

THE ANATOMY OF THE CENTRAL NERVOUS SYSTEM OF MAN AND OF VERTEBRATES IN GENERAL. By Prof. Ludwig Edinger, M.D., Frankfort-on-the-Main. Translated from the Fifth German Edition by Winfield S. Hall, Ph. D., M. D., Professor of Physiology in the Northwestern Medical School, Chicago, assisted by Philo Leon Holland, M.D., Instructor in Clinical Neurology in the Northwestern University Medical School, Chicago, and Edward P. Carleton, B.S., Demonstrator of Histologic Neurology in the Northwestern University Medical School, Chicago. Illustrated with 258 engravings. 6½x9½ inches. Pages xi—446. Extra Cloth, $3.00. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

The above work will be received with the highest consideration, for the subject matter thereof has been prepared by eminent scholars who have spent many years in this special line of research, giving not only their own deduction but about all the results of others who have also made a study of the nervous system of the vertebrates in general.

RADIUM—A RIVAL LIGHT OF THE X-RAY.

Prof. George F. Barker, of the physical laboratory of the University of Pennsylvania, has exhibited the newly discovered chemical element Radium, which appears to have some advantages over the x-ray, now so useful in locating objects for surgical cases before operations. It is said to be much cheaper than the x-ray, and seems to violate one of the fundamental laws of physics, viz., that of the conservation of energy. It does not derive its photographic power from the sunlight nor lose it by expenditure. The report of the exhibition is given in the New York Tribune, and we hope to have a statement directly from the Professor for our next issue.

A CHANGE IN DOCTORS.

Doctor—"Why, my man, you are going to get well. When I was your age I was just as low as you are now with this same trouble and pulled through."

Patient—"Yes, but you didn't have the same doctor."

A TEMPERANCE LECTURE.

In order to succeed give atention to the following advice:

Early to bed, early to rise
Never get tight, and advertise.
—Nat'l Adv.

A CARD.

In an advertisement of Dr. Reihart's, published in the Times and Tribune of this city some days ago, my name was used giving endorsement to Dr. Reinhart.

I wish to state, and state emphatically, that the use of my name in this advertisement was unwarranted and used without my knowledge or consent. To an enquiry from a reporter I did state that Dr. Reinhart had done business with us and had always paid his bills promptly, but that I knew nothing whatever as to his professional attainments.

Very Respectfully,
OSCAR TUCKER.

SITTING BULL'S GRAND SON.

An "American Hercules" is now exhibiting in London as a champion strong man and rival to Sandow. He is said to be a graduate of Harvard Medical College, and to have been in actual practice two years. He claims to be a grandson of Sitting Bull, the renowned Sioux medicine chief.

TWO SILVER WEDDINGS.

It is not often that a man celebrates his silver wedding twice, with a different wife each time, but the St. Petersburg Med. Woch. relates this of a Russian merchant who recently died at Belgorod. He is known to have traded at the yearly markets in the Ukraine for over a hundred years, and it is claimed that he was 140 when he died.

BACILLUS OF DYSENTERY.

It is announced from Japan that Dr. Kitasato has discovered the bacillus of dysentery, and has already performed some remarkable cures by inoculation.

NO WONDER.

"You don't seem to have much to say about domestic affairs."

"You are mistaken, sir. I have a good deal to say, but I never get a chance to say it."

TOMMY ON "THE LUNGS."

"When we breth the longs moves arround to all parts of the bodie the longs is too little round holes in the hed we breth threw them we hat better take care of the longs. If they was to deccay on us we would not be so verry helthy persons without no longs is apt to be peevish and missable in a sickly condition."—Puck.

BOTTLE TALES.

She—"In this story it refers to empty bottles as 'dead men.' That's absurd."

He—"What's the absurdity?"

She—"Well, dead men tell no tales; empty bottles do."—Moonshine.

A Perfect Antiseptic Should be Effective and Harmless

OAKLAND HYDROGEN DIOXID

is *theoretically* and *practically* effective and harmless; it contains only one active ingredient, **OXYGEN,** the preponderating element in the healthy living organism.

It is indicated internally in all forms of dyspepsia and digestive disturbances, butyric fermentation, gastric catarrh, gastric ulcers, etc., externally as a local application in the treatment of specific inflammations of the mucous membrane, chronic inflammatory conditions characterized by fetid discharges and wherever morbid conditions or foul secretions exist.

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ANTIKAMNIA & QUININE LAXATIVE TABLETS
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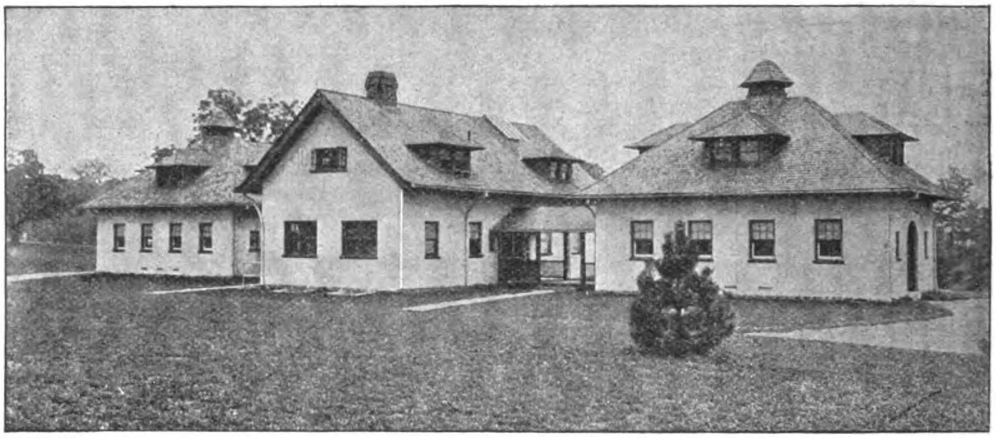
ST. LOUIS, U.S.A.
SEND US YOUR CARD AND WATCH RESULTS

GLYCERINIZED VACCINE LYMPH.

How it is Produced in the Laboratories of the H. K. Mulford Company, of Philadelphia.



VACCINE LABORATORY BUILDINGS.

The vaccine laboratories of the H. K. Mulford Company are located on the Glenolden Farms, at Glenolden, Delaware County, Pa., in an agricultural country particularly noted for its healthful surroundings and beautifully rustic scenery. Everything connected with the farm is conducive to health in employees and animals. The water supply is from distant springs, entirely free from soil contamination, and, as a further assurance of purity, is subjected to repeated filtration.

THE LABORATORIES.

The buildings have been designed after careful inspection of the leading vaccine establishments in Europe and America, and every advantage has been taken in constructing the plant to have it finished in the most complete and scientific manner. The inoculation of animals and the collection of virus are executed in a strictly aseptic manner in a seperate operating room entirely remote from the stables.

The animals are kept at all times under the most rigid sanitary surroundings in buildings all the materials of which—stone, cement, metal, slate, and porcelain-finish—permit of immediate and thorough disinfection. The system of drainage is perfect—all the refuse matter is conducted in iron pipes to a special incinerating plant where it is burned.

THE STABLES.

The stables accomodate sixty calves, each of which is confined in a separate slate compartment. The floor, walls, and ceilings are of cement and porcelain-finish and permit of complete and rapid disinfection. Steam heating apparatus insures a uniform temperature and the system of ventilation is such that the air of the room is changed every half hour without the production of direct draughts. The calves are fed exclusively upon sterilized milk, and the excretions are disinfected and removed as soon as voided. Each calf is subjected to a thorough physical examination by a veterinarian and injected with tuberculin in order to assure its freedom from disease. Only healthy animals are admitted, and the appointments of the stables and the care exercised keep the animals in healthful surroundings and free from disease. Each animal, after the collection of vaccine, is killed and subjected to a careful post-mortem examination. The virus from absolutely healthy animals is used exclusively.

THE STABLES.

TYPE OF ANIMALS AND METHOD OF FEEDING.

Suckling female calves, varying in age from four to eight weeks, are, according to all authorities, the producers of the best vaccine. Only this class of animals is used in these laboratories. Experience demonstrates that the virus from older animals is of variable and uncertain strength. Female calves are used exclusively becase the excretions are discharged from the rear, thus facilitating removal and obviating the possibility of the animal becoming soiled by lying in the urine. Metal

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, MAY, 1900. No. 5.

Original Articles.

THE NEURO-MUSCULAR ELEMENTS IN HIP JOINT DISEASE.

Dr. N. M. Shaffer read a paper of which the following is an abstract: If, as was generally conceded, the origin of hip joint disease was in the epiphysis, a great centre of growth and development supplied from the central, spinal and great sympathetic nervous centres, it would be readily seen that the presence of a foreign body like the bacillus of tuberculosis in such an osteitic focus would cause serious nerve irritation.

The following neuro-muscular elements had been recognized and described: 1, Involuntary tonic muscular contraction. 2, Muscular atrophy. 3, Reduced faradic reaction. 4, Increased muscular excitability. Together they presented a clinical picture of an irritative peripheral nerve lesion and gave expression to a distinct reflex spinal condition. They were absent from a joint suffering a simple injury and from primary tuberculous degeneration of synovial membrane, which was comparatively simple in structure and nerve supply.

REFLEX MUSCULAR SPASM.

This sign had been noticed early in his practice by the reader of the paper, who had spoken of it in 1872 as a "reflex muscular spasm," the first time, so far as he was aware, that the term had been applied to the sign. The occurrence and character of the spasm were unmodified by opium or chloral, but it was annulled by ether or chloroform. It produced joint deformity and sometimes simulated anchylosis. Clinically it was of the utmost importance. Its presence was the first sign of the disease and its absence the surest warrant for the suspension of treatment. It was involuntary, tonic, tetanoid.

When passive motion reached a certain point, at which the intra-articular pressure excited nerve irritation, the muscles involved, hitherto quiet, suddenly contracted and resisted further motion. When that point was reached the alert joint sense almost talked to the observer. When convalescence approached and actual immobilization was no longer required the motion permitted by the apparatus used should be to the inner side of the point indicated by the spasm. Protection, however, should be maintained until the joint was free from reflex muscular spasm when the patient might safely be restored to a gradually increasing use of the weakened limb freed from its diseased joint. Cases illustrating the ill effects of not heeding this indication were related.

MUSCULAR ATROPHY.

In this sign of joint disease we were dealing with something more than the effect of disuse. It was far from being functional atrophy. Although an early, important and expressive sign, its significance was impaired at a later stage by the incidental effects of mechanical treatment which included rest and compression. This was to be borne in mind when the patient and his friends were apt to think that the atrophy was entirely the result of maintaining too long the restraints of treatment.

Before applying electricity to the muscles involved the reader of the paper had surmised that reduced faradic reaction would be found. It was seen to be uniformly present in all of the atrophied muscles which were subjected to electrical test. In 1892 increased muscular excitability was shown by Dr. E. G. Brackett to be a fourth constant neuro-muscular element in hip joint disease, readily demonstrated early in the disease by the exaggerated patellar tendon reflex.

DISCUSSION OF REFLEX MUSCULAR SPASM.

Dr. V. P. Gibney said that the reflex muscular spasm was valuable as an aid to correct diagnosis and of great assistance in determining the time when to give up protective treatment. It was difficult, however, in every case to recognize the final disappearance of this sign. The best test of a joint which had been long under treatment was the use of the limb for one or two weeks, even in spite of the spasm. If, after free use, close observation revealed an increase in motion the brace might be discarded, but if the range of motion had decreased, with perhaps a little more spasm, mechanical treatment should be resumed.

Dr. T. H. Myers said that the presence of synovial tenderness, or peri-articular pain, or stiffening of the affected joint, or neighboring joints, from prolonged immobilization might easily make difficult a clear recognition of the resistance to motion made by reflex spasm. It

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*New York Academy of Medicine, Section on Orthopædic Surgery. Read at Meeting of Jan. 19, 1900.

was better to err by attributing the resistance arising from these causes to reflex action than to make the mistake of not recognizing the presence of the tetanoid spasm. He related the recent history of a boy, who had been entirely free from all other signs, in whose case a positive, afterwards confirmed, diagnosis was made on the presence of slight reflex spasm near the limit of passive motion, and the history of a girl seen ten years ago who on superficial examination appeared to have been cured of acute hip disease. There was wide motion and no lameness. When, however, the thigh was flexed, and at the same time prevented from outward rotation and abduction, a slight reflex muscular protection was found at the limit of motion. As the parents objected to a further continuance of treatment the patient was dismissed "improved but not cured" to suffer a return of the acute symptoms a few months later.

Dr. G. R. Elliott thought that there was no hard and fast rule as to the discontinuance of treatment. Instruments should be used readily permitting whatever increase of motion the symptoms warranted, to be discarded only when free movements for a considerable time were followed by no bad results.

Dr. W. R. Townsend recognized the nervous complications of joint disease and the practical value of reflex contraction as a clinical sign in disease of the hip joint.

Dr. H. L. Taylor acquiesced in the views presented, first, that reflex contraction was the earliest sign of hip disease and second, that so long as it persisted treatment of the joint could not be safely discontinued, views generally, if not universally, accepted by American orthopaedic surgeons.

Dr. R. Whitman agreed with the now commonly accepted view of the diagnostic significance of the reflex muscular spasm of hip disease. He thought that muscular spasm in convalescence corresponded to the acuteness rather than the area of the intra-articular process and called for absolute restriction of motion, in addition to protection for the completion of resolution.

Dr. A. B. Judson said that John Hunter had noticed the peculiar action of the muscles in joint disease. He said (1786) "Stiffness of the joint depends on the involuntary contraction of the muscles. * * * I think this arises from sympathy, or a consciousness of the parts being unable to answer to the action of the muscles, and it comes nearest to human reason of anything in the body." The words "on guard" (H. G. Davis) and the graphic expression "vigilance musculaire" (verneuil) had been applied to the watchful attitude of the muscles in joint disease. Though present in other diseases joint reflex muscular action was seen best in the hip because, being a ball and socket, it depends more than any other kind of joint on its muscular system for both motion and stability. For this reason reflex muscular contraction was of gre[illegible] importance in the diagnosis of the earliest stage of hip disease when the lameness is inconstant, the atrophy equivocal and the pain referred to the knee. It was of no less importance as a sign in convalescence.

Dr. Myers said that ten years ago he had observed five patients affected with hip disease each of whom received a number of injections of tuberculin. He had made 20 or 30 tests of the muscular spasm in each case and it was found that in the reactions caused by the injections the spasm became more alert as the temperature arose and diminished with the fall of the temperature.

Dr. Elliott said that nerve irritation at the site of the disease was reflected through the cord and gave rise to the spasm of the muscle.

Dr. W. Truslow said that the fact that slowly applied and progressively increased mechanical traction completely and quickly overcame the muscular action suggested the tetanoid quality of the spasm.

Dr. F. Peterson thought that the word tonic expressed the condition of the muscles in hip disease and that the word tetanoid was not applicable. Apart from a reference to the re-flex theory, the tonic spasm might be explained on the theory of an irritation of the cells of the nerves connected with the joint in the same way that the tonic spasm in muscular rheumatism so-called, of the sterno-cleido-mastoid muscles is supposed to come from irritation due to some poison affecting the nerves. Hyper- and hypotonia of the muscles might be here considered. In locomotor ataxia hypo-tonia is referred to destruction of nerve fibres and the muscles in joint disease might by some irritation be kept in a condition of settled hyper-tonia.

Dr. Taylor thought that tetanoid had a certain suggestiveness but he preferred the word tonic or some one of the other terms which were in general use.

Dr. Elliott thought that tetanoid better than tonic defined the character of the spasm, which was sometimes clonic.

Dr. Meyers thought it probable that a similar spasm might attend non-tubercular lesions of the bones and joints such as partial fracture or complete fracture without displacement. He thought he had seen spasm very like that of hip disease in such cases.

Dr. Taylor said that there was nothing especially diagnostic of the tuberculous condition in tetanoid or reflex spasm, which might appear different at different stages, or in different cases, of tuberculous disease, as it did in given cases of such different affections as tuberculosis, osteo-myelitis, rheumatism and synovitis, the spasm depending on the location and grade of the irritation rather than on its pathological origin. It would not be often found in synovitis.

Dr. Whitman said that reflex spasm as an evidence of the irritation and sensitiveness of a joint was not found in synovitis and was not restricted to tuberculous disease although that disease was its most common cause.

DISCUSSION OF MUSCULAR ATROPHY.

Dr. E. D. Fisher said that these signs of hip disease could be referred to the reflex action of the spinal cord. But using the term reflex did not go far as an explanation. The cerebrum is not involved. Serious implication of the spinal cord or the nerve supply of the muscles was out of the question; but in malnutrition of the spinal cord he thought we had possibly an explanation. On this theory the whole reflex arc would be involved. Beginning with a sensory disturbance the irritation is carried to the cord through the posterior roots and then to the anterior horn where it caused spinal irritation or exhaustion, if it might be called that, and atrophy. A parallel might be found in disease of the 5th nerve with reflex irritation of the 7th causing spasm of the face in which removal of the cause of irritation in the nerve or the ganglion relieved not only the pain but the spasm.

The term reflex conveyed little or no explanation unless it became part of some coherent plan the result of reasoning and fortified by postmortem examination. He recalled a case of anchylosis of the knee and atrophy the result of an injury at the age of 7 and followed by an autopsy at the age of 41. There was marked atrophy of the anterior horn in the segment corresponding to the knee and in the cerebral convolution controlling that part of the body. It was common to find atrophy thus localized after the loss of a member in early life.

Altogether the presence of these elements in hip joint disease confirmed the theory of a trophic centre in the spinal cord. Wasting was common at the onset of joint disease, in which the consecutive atrophy was always more rapid than in an injury to a large nerve. Recovery was also more rapid than in poliomyelitis in which the lesion might be a destructive one.

Dr. Peterson said that an explanation by reference to the passage of an irritation to the spinal cord and its reflection along the trophic nerves to the muscles was scarcely a probable one because irritation of trophic nerves generally gave rise, as it did in any sort of nerve, to an excess of function.

In joint atrophy there was wasting away of muscles from wasting away of trophic centres or destruction of trophic fibres. Faradic action was reduced in quantity but normal in quality.

The manner of response to the faradic and galvanic currents was normal though the muscle was wasted. The subject was interesting because of the absence of the reaction of degeneration. In the atrophies of progressive poliomyelitis, with actual degenration of trophic centres there was profound reaction of degeneration. In only one other class of marked muscular atrophy was reaction of degenration absent, the class of primary muscular dystrophies, not due to any nerve lesion, in which there was destruction of the muscular fibres, which wasted away one after the other, there left responding in a normal way. In very marked instances of this condition there was reaction to the faradic current as in joint atrophy. Joint atrophies might be explained in a similar way, without reference to the spinal cord, on the ground that, although many of the trophic fibres coming to the muscles which moved the joint would be connected with the joint, all of them were not and when an inflammatory process in the joint destroyed trophic fibres and produced atrophy some of the muscular fibres were not destroyed and responded with absence of the reaction of degeneration as happened in progressive muscular dystrophy.

In rheumatism and sciatica and other painful affections there was increased muscular excitability as shown in the knee jerk. The response to the stroke of the tendon was however too rapid to allow of a trip to the spinal cord and back, and yet it was governed by spinal cord conditions. Neither this nor the other neurological conditions found in hip joint disease need be necessarily considered in connection with the spinal cord.

Dr. Elliott said that the novel and interesting dystrophy theory might explain the atrophies of monarticular rheumatism and rheumatoid arthritis which were distinct from the joint atrophy under discussion.

Dr. Whitman said that, among other contributing factors, physiological disuse was the most important and constant cause of the atrophy of joint disease, which affected all the component parts of a limb including the bone. It increased for a time more rapidly when the symptoms were relieved by fixation of the limb. It followed fixation of the limb in splints after fracture of a bone.

Dr. Gibney said that much of the atrophy following the use of apparatus for several years was caused not only by disuse but also by constricting bandages and appliances.

Dr. Elliott said that joint atrophy was specific and in no way related to the disuse atrophy and to that which came from bandaging.

Dr. Townsend said that disuse, which was an obvious and controlling factor of the later atrophy, played a very unimportant part in the production of the early and characteristic atrophy of joint disease, which appeared in patients confined to the bed.

Dr. J. B. Bogart said that the joint atrophy of the neurologist arose from a nerve lesion but the atrophy of orthopaedic practice had a threefold origin in nerve implication disuse and the restranint incident to treatment.

Dr. Taylor suggested over-work as a cause of the primary atrophy. When a muscle was exercised beyond a certain point or subjected to prolonged electrical excitement it atrophied and the continuous localized sensory irritation of joint disease might over-work the muscles in a physiological sense through the motor centres in the cord.

Dr. Fisher said that the muscular atrophy caused by over-use could be referred to spinal cord atrophy, as was almost conclusively proved by the experiments of Hodge who had recorded atrophy in the spinal cord cells of pigeons which had been flying for hours.

Dr. Taylor said that in cases of diseased hips of long standing there was an interference with the circulation and an extensive atrophy affecting even the bones, which doubtless had several factors, including retarded growth of the parts affected, in addition to the early joint atrophy. Similar effects were to be seen in the wake of infantile paralysis and fracture of the femoral neck in children and in certain congenital malformations.

Dr. Judson said that in many cases of serious disability of a lower extremity a large part of the asymmetry was due to hypertrophy of the unaffected limb from over-use.

Dr. Peterson said that the results of joint atrophy could not be confounded with those of disuse. In a shoulder joint, immobilized by acute arthritis, there was rapid atrophy of the muscles, which was absent from a shoulder joint immobilized in any other way. In an injury of the brain, as in apoplexy, there was disuse but no atrophy of the muscles at all. In fracture of the femoral neck in a child one side did not grow as fast as the other. In infantile cerebral hemiplegia one side of the body did not grow as fast as the other, not from atrophy but from retardation of growth on the paralyzed side. In any serious injury of an extremity retardation of growth came from disuse, or from interference with nutrition from disuse.

Dr. Shaffer said that at one time he had seen several patients with hysterical imitation of hip joint disease under treatment for months by the long hip splint, adhesive plaster and bandaging. In some of these cases there was muscular resistance but no atrophy. After true hip joint disease the muscular atrophy might never wholly disappear but the limb would do its work well. If considerable motion returned to the joint as the result of treatment the patient would walk without a limp and in anchylosis in a good position a most useful limb would result.

In his earlier studies he had found no reference to the spasm of hip joint disease in the then limited works on orthopaedic surgery, but in Charcot's Lecture he had found light on the subject and he had for many years steadfastly called attention to this interesting phase of chronic tuberculosis joint disease, and, inasmuch, as spasm and atrophy were not observed in chronic synovitis of the knee and ankle, he had proposed that hip joint disease, like Pott's disease, was an osteitis and not a synovitis.

In his paper he had tried to indicate when apparatus might be discarded in hip joint disease. This decision could not be rightly made until the tetanoid spasm was duly appreciated. It was not difficult to recognize it, once its peculiar characteristics were understood. He thought that the word tetanoid would sooner or later be generally considered to be applicable or that some other word, broader than tonic and more comprehensive than reflex, would be applied by neurological students, who had here a subject well worthy their investigation to the end that the profession might know the real value of the neuro-muscular elements in hip joint disease and recognize that they had a distinct pathological origin.

THREE INTERESTING PATIENTS FOR A RECENT GRADUATE.

By H. Bowman, M. D., Torah, Minn.

About June 15th, '99, Mr. M. N., farmer, consulted me about his wife. Her monthly periods had started when they should not have appeared, they were painless, and would not cease. She was thirty-seven years old, had given birth to five children, without any doctor's aid, and now she was looking toward another confinement during the first part of July. He was told of the conditions which would cause her symptoms and of their import. The man went home without saying what he would do.

On July 1st, '99, 11 P.M., a neighbor of this man drove me to the house to make me face things unknown. A mid-wife, a licensed one, strange to say, was present. She told me that the patient was bleeding too much, holding up the chamber in evidence. She had observed that the after-birth was coming first, there having been but few and weak pains. The poor woman looked pale and scared, she felt weak and dizzy and her pulse was 90. On auscultation and palpation, I found the child living, its head down and feet up. My internal examination was naturally very gentle. There was plenty of room and dilation complete, but between finger and head was a heavy, spongy mass, which seemed to be of the same thickness at all points I could reach without making trouble. Hemorrhage had ceased owing to a weak pain, the vagina was filled with clot.

I quieted the fears of the patient, but her case, being an unusual one, and needing quick work and chloroform, I decided to send for another physician. The husband was certainly not left in the dark. Dr. Rudy of Cold Springs was kind enough to drive fast and arrived soon. The midwife's diagnosis was confirmed, and we decided to pass through the placenta, to turn the baby without loss of time, and the fetal heart beat having grown unpleasant, surgical preparations were made, and after the woman had been chloroformed and properly placed, Dr. Rudy performed the task with great dexterity. The placenta was a centralis, and the bag passed through it. Great care was taken to deliver all the membranes. Both parties interested lived.

Mrs. C. N., 27. Farmer's wife, lived two miles from the former family. She was in need of a doctor at the first confinement and desired to be prepared this time. Her health had been good. A pain on the previous day, followed by a gush of blood had aroused her suspicions. There had been no pain since but she had felt uncomfortable. She was a stout little woman, somewhat anemic. External examinations gave: Child living, its head low down in the right iliac fossa. After the necessary scrubbing the vaginal finger found room for a speedy delivery, the os being widely dilatable, only the head could not be touched. With my former experience before me I thought of 1 in 1000 or 1 in 723. Something existed between finger and head, which could be felt through the uterine wall. A contraction had passed off by this time, and my finger passed quite far up along the right side in the uterus, and the head was reached. At the same time I felt a warm stream of blood and became uneasy. It was clear that a part of the right margin of the placenta had been detached, the bulk being implanted on the left side, Dr. Rudy was called again, and together, we decided to proceed boldly. The woman having been prepared and chloroformed, was placed upon the edge of her bed. I passed along up the right side steadily, detached the plecenta broke the membranes and succeeded in turning quickly. Placenta and child came along at the same time, with the exception of a thin cord of membrane which came away after the contractions, which were now strong, had relaxed. Mother and baby lived and we began to breath with more ease, when suddenly the woman collapsed. She gasped for breath, became pulseless, extremeties grew clammy, and beads of perspiration were seen on her forehead. There was no bleeding, the uterus being hard. After an hour's anxious working, artificial heat, saline enemata, atrophine, glonoin and digitalis our patient rallied and our long faces shortened.

Dec. 19th, '99, 4 A. M., Mrs. A. F. Primapara, 30 years, farmer's wife. Never had a doctor, but had menstrations for the last month, and in pain. A profuse, red hemorrhage had scared the family. She was a stout woman, who cared for a feeble husband, and worked the farm. Ext. Examination. Pulse 100, child living, head down to the right side. Active hemorrhage ceased. Int. Examination: Plenty of room, os was sufficiently dilatable, so that one might have safely ruptured the membrane. The finger was unable to touch the head. There was a thick spongy mass, besides clots intervening. I now explained the necessity of having another physician to help me. Dr. Pilan of New Paynesville, was called. It seemed so strange that I should have another placenta previa to deal with that I could not rely on my own findings. My fears were not groundless, however, for the doctor confirmed my diagnosis, stating that the larger part of the placenta was implanted on the left side. After the woman had been prepared and anesthetized, Dr. Pilan performed inversion, which was more difficult in this case on account of the insufficient dilatability mentioned. The patient lived, and the child cried after a few minutes of strict attention. No further trouble resulted. Expulsion of the mutilated placenta was synchronous with the birth of the child. It had many atrophic spaces, and the funis was implanted marginally. The patient made an uneventful recovery.

THE TRAINED NURSE.

By Miss Christine Williams.

(Class paper, Asbury Methodist Hospital, 1899.)

As the weary traveller in Erin's Isle draws near some ruined castle, his eye not infrequently traces on some moss-grown threshold, the words "a hundred thousand welcomes." Such is my greeting to you all to-night in the name of the class of 1899. For two years we have looked forward to this night as the crowning reward of our labors. As the butterfly changes from embryo to chrysalis before it feels its wings so we have passed through the stages of probationers and juniors and have developed into seniors, ready to face the world in a struggle with the enemies of suffering humanity. It has not been altogether a holiday experience in the general acceptance of that word but hard work, that has come under no eight-hour system, but rather that which governs supply and demand. Neither have we been martyrs. Listen to the words of one who has given her life to the work "I give a quarter of a century's European experience when I say: The happiest people, the fondest of their occupation, the most thankful for their lives, are in my opinion, those engaged in nursing the sick. It is mere abuse of words to represent the life (as is done by some) as a sacrifice, a martyrdom, there have been martyrs in it, founders and pioneers of almost everything that is best, must be martyrs, but these are the last even to think themselves so. And for all there must be constant self sacrifice for the good of all. But the distinction is this: The life is not a sacrifice; it is the engaging in an occupation the happiest of any, but the strong, the healthy wills, in any life, must determine to pursue the common good at any personal cost, at daily sacrifice; and we must not think that any fit of enthusiasm will carry us through such life as this. Nothing but the feeling that it is God's work more than ours, that we are seeking only his success and that we have trained and fitted ourselves by every means which he has granted us, to carry out His work, will enable us to go on." —(Paine.)

"The world rightly loves its heroes—no less does it love its heroines." These are the words of one whom the world owns as one of its heroines,—a trained nurse—Florence Nightingale. She taught us the great lesson of preparation for work: nursing the sick and tending the poor must be done systematically, with order, not as desultory work to be taken up and dropped as the whim of the moment may dictate, but that it is a high and noble calling, worthy to be undertaken by the greatest lady in the land, even as by the humblest member of Christ's flock, if her heart be in the work. Not for herself must she labor, but for God; that is the keynote of her teaching and work. Might but the example of this great and pure heroine be made to tell in our lives. The principle of the nobility of women's work was in its infancy at the time Florence Nightingale entered its ranks, and a certain slur rested upon those enrolling themselves among its workers. Florence Nightingale chose to ignore this feeling and went her way quietly and earnestly as one who had an object to attain; an object in her own estimation so high, so noble, that no counter opinion could affect her. About the only nurses available at the time were the "Sairy Gamp" type—uneducated, vulgar, drinking women, not likely to inspire confidence, either in the patient or doctor. With this state of affairs, it was impossible that the generallity of people should understand the motives which made her, a young and highly gifted woman in the full enjoyment of all the goods of this world, deliberately turn away from the pleasures of society, which she was so well fitted to adorn, and voluntarily devote herself to the "weary and heavy laden." And dear friends, was it not a strange taste for a pretty, wealthy, and refined young woman, whose life had been full of sunshine and happiness? Perhaps, but it was a saint-like taste and much needed to render this sad old earth a little more like paradise. The Providential leading in her life was shown by the fact that she had already offered her services to nurse the sick and wounded soldiers in the Crimean war. When the secretary of war wrote her asking her to take up the work their letters passed on the way. The testimonies of the soldiers prove that female nursing in times of war, is not a failure. They said of Florence Nightingale "Before she came there was cursing and swearing; and after, it was as holy as a church."

The testimony of the world thus far has been that men everywhere need the help of women, and women need the help of men. Her work after the war in St. Thomas' Hospital and Home has given many a nation a model, and indirectly all nurses are benefitted thereby. Bellevue Hospital in 1873 was modelled from this.

But Florence Nightingale is not the only heroine developed by the nurse's profession. These remarks would be incomplete without mentioning our New England girl—Clara Barton. When the Civil War began she told her father how her heart ached for the soldiers at the front, who lay suffering on the battlefield, and how she longed to go to them. Her old father said: "Go if you feel it your duty to go, every true soldier will respect you and your errand:" She went, and we all know with what results. "Truly a hand leads us though we may not feel it, and the way is opened for us, though we may not see our guide." A well known writer says "I believe I never looked upon a better face than that of Clara Barton; the unselfish heart, the hopeful nature, the helpful spirit, the definite purpose to bless the world, are all revealed in the radiance of that face:" Another says: "Miss Barton seemed always to be reaching out to do the hard things in life, the things from which others shrank—not but that she shrank too; yet, as she said years afterwards, when she was the only woman among the swamps and sands of Morris Island: 'Why someone had to go and take care of the soldiers, so I went.' Go not to those who need you, but to those who need you most." If there were more abiding in Christ (some one says) there would be less abiding in America.

Does not this make you think of our sisters across the waters, who to-day are sitting in darkness? What grander field of work for the future nurse than organizing training schools, teaching these benighted ones the care of their own bodies and of the sick in their land. Surely the heathen need us!

The advantage of a nurse over a visiting physician in those countries is very great. As a nurse she can enter places where a physician cannot go, and her influence will be greater on that account. Then too a physician on account of the shortness of his calls, or the patient's condition at the time of his visit, cannot talk with him about his soul's salvation, but the nurse is always present. There is a great field for establishing schools to train the natives in hospital work. Their ignorance in regard to medicine is incredible. While the nurse can find ample opportunity to do good at home, she can still accomplish a great deal more where she can train and educate the natives of heathen lands and free them from gross superstition.

The high caste people of those lands are not ignorant, yet all have superstitious ideas about the sick, in fact, give the sick almost no care at all. By relieving their suffering we can get closer to them than in any other way. One says "Our profession is more glorious than the famous crusades of history for their purpose was the redemption of an empty sepulcher while ours is the rescue of the temple of the living God from hostile forces of unsanitary condition, degrading environment and dire disease. Nursing is an art and requires as exclusive devotion, as hard a preparation as any painters or sculptures work; for what is the having to do with dead canvas, or cold marble compared with the living body the temple of God's spirit? Nursing is one of the arts almost the finest of the arts." Less than fifty years have seen a complete revolution within hospital walls and the evolution of a new profession for women. But, after all, the crying needs of the sick brought the nurse into existence and the first efforts of the pioneers of trained nurses were directed to the alleviation of the suffering, not to build up an employment for women. Lectures and examinations take place and diplomas are granted, all this as a means to improve nursing—(changing from two to three years as many hospitals are now doing is purely for educational reasons,) There are three main causes to which the improvement is due: First, the force of nurses has been increased so as to make it possible to effectually carry out the refinements of treatment that in the old days, with the insufficient force, were impossible. Second, and perhaps the most potent, the systematic training and constant inspection to which every part of the work is subjected, visitors as well as teachers doing this. Third, the superior quality of persons entering for training, the strongest, brightest and best brain from the best families, even to royalty, are thoroughly, systematically and practically trained for their useful humantarian vocation. And the physician finds a better ally in the educated nurse than the uneducated.

Education, position and place are of value only for the opportunities they give for the expression of character. The whole world must be interpreted from the basis of individual character. But education is not enough, accepting the proposition that character is the essential thing, it is easily seen that Christianity is the best defination of character, it illustrates the true life best. Patience, self control, kindness, gentleness, truthfulness, honesty, self sacrifice are attributes of the only character worth living. Reliance on God, surrender to Him, trust in Him, worship and praise of Him, prepare the life for the growth of the virtues. It follows then that a successful nurse must be a Christian, the Christian spirit will engender in one, all the small courtesies of life.

For the deaconess hospitals we predict a great future, for, is it not true that the usefulness of a nurse depends upon whether she must gain a livelihood or whether she is supplied with means, either her own or provided by some person or organization, so that her whole time can be given to the sick. Of course her opportunity of doing good is much greater than that of the untrained in any event, but if she is rendered independent and free from any unnecessary effort to gain a livelihood, her power of usefulness would be much greater, and for this opening we thank Ausbury Hospital to-night.

With hearts full of gratitude to all who have aided us during the past two years: to our doctors, who, with much patience and trouble have employed their valuable time in delivering so many interesting and helpful lectures: to Mrs. Knight, to whose thoughtful generosity, we are indebted for so much of the comfort and enjoyment of the past two years in our beautiful home; to our dear Miss Palmer who has been a constant inspiration to us in her unselfish life, from whom we have learned that a woman's influence must work quietly but effectively, it must work the influence of a life, not mere words; especially to our Supt., Miss Bushnell, to whose fostering care we owe so much, and whom we have found ready to help in every time of need—we bid farewell, trusting we may live up to the precepts instilled into our hearts, fulfilling intelligently our duties, and, may we ever keep at heart our motto, "For God and Humanity."

And now I bid farewell to those nurses with whom we have been associated in the home and hospital, who will pick up the threads of the work we are leaving. Remember Madame De Stael's words, "Sow good services, sweet remembrances will spring from them." "No life can be pure in its purpose and strong in its strife and all life not be purer and stronger thereby."

Last, but not least, to my class mates, with whom I have toiled the past two years, I bid farewell, whose sympathy and fidelity have been unfailing. Our paths will now be widely diverging. If we cannot, like George Eliot, write Adam Bede, we can, like Elizabeth Fry, visit the poor, the prisoner, the sick. If poor, with Mary Lyon's persistency and noble purpose, we can accomplish almost anything. While we are sweeping on in the express train of modern activity, let us not forget that the character of the worker weighs more heavily in the scales of real success than the whole aggregate of improved plans or novel expedients . What we are, will tell more upon men and women around us than any amount of work we may do." The mission of woman on earth: To give birth to the mercy of Heaven descending on earth. The mission of woman: Permited to bruise the head of the serpent and sweetly infuse through the sorrow of earths registered curse, the blessing which mitigates all.

Born to nurse, and to
"Soothe and to solace,
To help and to heal the sick world that leans on
her."
"Let our increasing, earnest prayer
Be, too, for light, for strength
To bear our portion of the weight of care
That crushes into dumb despair
One half the human race."—Longfellow.

"How far back on the family tree did he trace his lineage?"

"To the third limb."

"Why did he stop there?"

"His great-great-grandfather was dangling on it."—Ex.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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Annual Subscription, in advance, domestic, -	$1.00
Annual Subscription, in advance, foreign, -	1.50
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ADDRESS ALL COMMUNICATIONS TO
THE MEDICAL DIAL, MINNEAPOLIS, MINN.
Masonic Temple.

MAY, 1900.

A NEW METHOD OF TREATING DUFFUSE SEPTIC PERITONITIS.

Nothing has so advanced the surgery of the abdominal cavity as a proper understanding of the structure and functions of the peritoneum. There was a time when wounds of this membrane were looked upon with horror and the surgeon who fearlessly amputated limbs, removed tumors and ligated arteries stood aghast when he reached the peritoneum, as if he saw the words of Dante written upon that delicate parchment, "Abandon hope all ye who enter here."

A proper appreciation of the absorptive processes of the peritoneum gave confidence to operators, and the demonstration that certain parts of the membrane are capable of absorbing fluids more readily than other parts is of late being put to practical use. In the region about the diaphragm large lymph trunks are present and stomata are numerous and ready to take up and carry into the general circulation large quantities of fluid, regardless of whether the fluid is harmless or loaded with poisonous material. In the intestinal region the absorptive power of the peritoneum is less marked than in the diaphragmatic region, and yet, they are in sufficient numbers to absorb poisonous material to such an extent as to make this a dangerous area. The pelvic region, on the other hand, has little absorptive power. Large lymph trunks and stomata are almost absent, and, although the membrane is rich in capillary lymphatics these readily become obstructed. As a consequence absorption in the pelvic region takes place slowly and in inflammatory conditions soon ceases altogether.

Arguing from these premises (Dr. Fowler, Medical Record, April 14th, 1900), recommends a simple and common sense treatment of suppurative peritonitis, which he has employed in a number of cases. The treatment consists in raising the head of the patient's bed from the horizontal at least twelve to fifteen inches. This allows the septic products to gravitate to the pelvic region, where they can do less harm and where they can be got rid of by drainage. A glass drainage tube is made to reach down to the deepest part of the pelvis, into this a gauze wick is placed and at frequent intervals the fluids are drawn from the tube by means of a syringe. Dr. Fowler gives a record of nine cases treated in this manner with very encouraging results.

Much discussion has taken place on the question whether absorption of substances introduced into the peritoneal cavity takes place by the blood vessels or by the lymphatics. This subject has been re-opened by the investigations of Mendal (Arch. of Physiol. p. 416, 1899), who takes the view that the blood vessels are the main channel of absorption, and a large amount of evidence supports this theory. Dr. Fowler's method of treating suppurative peritonitis would seem to depend upon the theory that the lymphatics play the most important part in peritoneal absorption. However this may be, the suggestion is so simple and rational that it is well worthy of a thorough trial.

"An empty house is better than a bad tenant," said the victim, as he looked upon the inanimate form of the tape worm just expelled with a large draught of pumpkin-seed tea.

THE EXPERIMENTS ON ANIMALS.

In reviewing Mr. Stephen Paget's Experiments on Animals the British Medical Journal for March 31st, presents the subject in so clear, comprehensive and unbiased a manner that we here reproduce a portion of it.

"Now, as regards the alleged inutility of Bernard's glycogen researches and of the search for antidotes for typhoid, diphtheria, rabies, plague, and cholera, while we believe, on the contrary, that very important results have been obtained, we are not careful to assert that in some halfscore years successes have been so definitely and widely matured as to withstand hostile advocacy. A larger view than this must be taken of the matter.

"In any science but the present, in physics or in chemistry for instance, the experimental method is now followed, and after some two thousand years of darkness and error, proves to be the true method of attaining to natural knowledge. It is sufficient to say that to one who reads the history of natural knowledge with an open mind, the experimental method appears as not only the best, but almost the only method by which this kind of knowledge is to be achieved. In the sciences which we have taken as illustrative, the experimental method has from the time of Galileo, let us say, proved itself indeed to be the only clew to truth; the advance of physical and chemical science has become identified with this method, and the centuries in which natural knowledge stood still—which in physiology we may roughly assume to be from the time of Galen to that of Harvey (some fourteen hundred years)—were marked by disuse and even contempt of this method.

"Mr. Coleridge's gibes that discoveries of the nature of living processes have led to no alleviation of disease are gibes which have been directed not at physiology only, but also at scientific students of medicine generally, for many centuries. Yet any one who is acquainted with the history of physiological discovery in the hands of Harvey himself and his immediate predecessors is well aware that this dawn of knowledge of the nature of life advanced precisely in so far as the experimental method was rigidly pursued, and that deviations from this method were responsible for most of the false opinions which still embarrassed that advance both in the seventeenth and eighteenth centuries. In the fields of other sciences Mr. Coleridge probably would recognize this, and he can not but recognize that if physiology is to progress, such must be the method of its progress.

"It is not, perhaps, too much to say that in no instance has an anatomist of the dead discovered a function of the living body; if a few such instances are on record they escape our memory, and at most are a negligible quantity. Observation does not suffice; experiment is inexorably necessary, if we are to learn from the large and consistent teachings of history, and it is difficult to see what other teachings we are to look for. Whoso may doubt that this was Harvey's method and the only method by which he advanced our knowledge of life can not have read Harvey's treatise De Motu Cordis or his Epistles to Riolanus.

"Now, Mr. Coleridge can not deny that by the experimental method we are attaining to a knowledge of living function, nor is he surely so skeptical as to assert that a knowledge of life is likely to be unprofitable to the physician; his contention must be that, this method being on ethical grounds illegitimate, we must remain ignorant. This is a perfectly fair issue, and it is comprehensible that serious persons may differ upon it. It is therefore with more interest that we leave Mr. Coleridge's pleadings—forensic efforts of a kind which have won for his gifted family not the least of its honorable distinctions --and turn to his passionate denunciation of the experimental method, in physiology alone, on moral grounds. It is on the same grounds that an appeal is made to the medical profession in the tract issued by the Friends' Antivivisection Association.

"Mr. Joseph Fry and his cosignataries see, what Mr. Coleridge does not see, or as an advocate avoids, that the point between the physiological investigator and themselves is not whether such and such discoveries are scientifically illuminating, and so likely to be beneficial or not—let it be granted, indeed, that they will alleviate human suffering and prevent human sorrows—but whether it be lawful or unlawful to obtain such knowledge in the only possible way. The Society of Friends is consistent in not shrinking from this issue, as the Friend does not shrink also from saying that, whatsoever the ends to be gained in the sphere of justice or of ideas, under no circumstances is war justifiable. To other mortal men it appears that our lot is cast in a world of conflict, and that in it life is not a thing absolutely inviolable, but, whether of animal or man, to be economized. To physicians who are familiar with the unutterable pain and afflictions of mankind, it seems that the life to animals, when animal life is in the balance against the lives of men, is not to be conserved absolutely, but with economy and care to be spent.

"Mr. Coleridge, in his forensic way, says that 'On such a basis of naked utilitarianism the torture of hospital patients, not for their own benefit, but for the sake of science, might with equal logic be defended.' Mr. Coleridge does not really think this—it is only his way; he does not really think that if a man, a boy, and a pig are pining in a boat that either the pig or the boy might with equal logic be killed to feed the man. He knows that, although human life may be sacrificed for the common good where certain tremendous issues are involved, yet, short of these, something like an absolute sanctity ought to protect man from man. Some ardent philanthropists have been tyrannicides, but the verdict of the world is against them; we all admit that the experimental method has its limits in human society. But can any reasonable disputant say that animals are or ought to be in the same sacred position? Mr. Coleridge, we presume, does not hesitate day by day to kill animals for his eating, because he likes flesh better than vegetables; wherein he seems to go rather a long way. He probably enslaves animals also, and otherwise looks on them as given for the use of man. Not that this alone justifies experiment upon them, but surely it puts an end to the plea that to experiment on animals is on all fours with experiment on hospital patients?

"Mr. Coleridge objects to Mr. Paget that 'he simply assumes that if torture (of animals) be useful to man, it is justifiable.' Well, passing by the dyslogistic word 'torture,' Mr. Paget does assume it, and so do most thoughtful men; moreover, an instructed public opinion is deciding this matter every day more and more distinctly in Mr. Paget's favor. Pain and death are implicit in the world as it is made; all that man can do is to minimize them to the uttermost. The position of the physiologist is that by some small sacrifice of animal life—small, that is, in comparison with the sacrifice of animal life in other directions, as for food or in war, and infinitely small in respect of the issues involved—the laws of life can be discovered, and as in the other natural sciences, by the experimental method only; also that be a knowledge of these laws only, if at all, can life be managed, and disease prevented or cured. If the public were to agree with Mr. Coleridge and his friends, these inquiries would cease, our search into the laws of life would be fruitless, and medicine, public and private, would return into the degradation into which, for lack of experimental methods, it fell in the time, let us say, of Louis XIV, or of the Great Plague of London. The serious tract of the Friends recognizes this alternative, and faces it without flinching; and as with the tract was a courteous appeal to the medical profession to wrestle with them in this high argument, and to state its individual views in the stamped envelopes inclosed, the present writer ventured accordingly to state the following ethical problem and to request a plain answer of 'Yes' or 'No.' The problem, abstracted in non-essentials so as to conceal an actual occurrence within the writer's own experience, was stated as follows:

"A father had a dearly beloved and only child, a grown-up daughter, who fell ill of diphtheria. His physicians told him that without the use of the diphtheria antitoxine she must die. The father asked if the discovery of this antidote was made by experiment on animals, and their answer was to this effect. Again he asked if the supply of the remedy is maintained by operations on animals. The answer was necessarily in the affirmative. The father replied that to use the remedy was against his conscience, and that his child's life was in the hands of God. On the premises of Mr. Coleridge and his friend the father was right; his daughter died. The father now believes that, as every expert knows, by the use of the remedy the life of his child might have been saved, and in his remorse is a broken-hearted man. The question put to Mr. Fry and his cosignatories is, 'Was the father right or was he wrong?' a question which admits of a simple 'Yes' or 'No.' To this question, invited by the Friends' Society and forwarded to them many weeks ago, no answer has been received."

THE NUMEROUS PRODUCTS OF COAL.

When one but considers the subject for a moment he is surprised at the wonderfully large number of products made from bituminous coal. These products enter so largely into the arts and sciences that it would seem well nigh impossible to meet the requirements of a modern existence without them. The remarkable discoveries in coal derivatives, and the uses to which they may be applied, have all been discovered in the present century, and nearly all, aside from gas and its use for illumination, and kerosene for the same purpose, have been found within the memory of men of less than two score years of age, and so numerous are these products that but few are in possession of a complete glossary of the subject.

"There are obtained from coal," says the London Health, "the means of producing over 400 colors, or shades of color, among the chief of which are saffron, violet, blue, and indigo. There is also obtained a great variety of perfumes—cinnamon, bitter almonds, queen of the meadows, clove, wintergreen, anise, camphor, thymol (a new French odor), vaniline, and helitropine. Some of these are used for flavoring. Among the explosive agents, whose discovery has been caused by the war spirit of the last few years in Europe, are two called dinitrobenzine, or bellite, and picrates. To medicine, coal has given hypnone, salicylic acid, naphthol, phenol, and antipyrine. Benzine and naphthaline are powerful insecticides. There have been found in it ammoniacal salts, useful as fertilizers, tannin, saccharine (a substitute for sugar), the flavor of currants, raspberry and pepper, pyrogalic acid, and hydroquinone, used in photography, and various substances familiar or unfamiliar, such as tar, resin, asphaltum, lubricating oils, varnish and the bitter taste of beer. By means of some of these we can have wine without the juice of the grape, beer without malt, preserves without either fruit or sugar, perfumes without flowers, and coloring matters without the vegetable or animal substances from which they have been hitherto chiefly derived."

SURGEON'S VS. PHYSICIAN'S FEES.

The experienced and really capable physician is entitled to a fee proportionately important to that which surgery expects, when the equivalent in service is rendered. Medical treatment strives to save and prolong human life, and when the result to the patient is the same, whether through the assistance of surgeon or physician, why need the fee be widely different? The fee of $500 to $5,000 may or may not be too much for an appendectomy, but if the same end is safely and satisfactorily attained by the practitioner, why should his fee be less than that of his surgical contemporary? When the emoluments for medical work, skillfully and successfully accomplished, whether by surgeon or physician, are relatively similar, there will be an incentive for closer co-operation, higher medical thought and better treatment than prevails in some places at this time. The practitioner is entitled to the full equivalent in exchange for intelligently performed services in the conservation of human life, and that equivalency should correspond to the measure of success in each case treated, with a proper and due regard for the skill, experience and years in medical practice.—Dr. Elmer Lee.

REMOVAL OF THE VERMIFORM APPENDIX AS A PROPHYLACTIC MEASURE.

The craze for surgical operations seems to have reached its climax in a serious proposal to remove, as a routine practice, the appendix in children with a view of preventing appendicitis, as Jews practice circumscision. The editor of the Medical Review addressed a number of eminent surgeons with a view of learning their opinions upon this suggestion. Out of eighty-eight surgeons who sent in replies eighty-three expressed themselves in condemnation of the proceedings. Strange to say, there were five who would favor the absurd proposition.

BUT ONE LUNG LEFT.

George: "Sambo, how youse feelin' dis mornin'?"

Sambo, (in falsetto and tapping his right lung): "De right lung am all dried up, George; but (in deep base and striking the left lung), de lef' lung am sound as a dollah."

Pat: "Docther, phat you say ails me wife?"

Doctor Bacillus: "She has swallowed a few bacilli bronchitidis putridae, Pat, and some lodged in her throat."

Pat: "I niver tho't me wife a thafe. That's whare me pony wint; but Dockther, how the divil did she git the tail down. Niver'll buy a broncho 'gin."

The Professor of Medicine: "Will some one in the class please explain the cause of clubfoot?"

Timid Student on the rear seat: " I know, doctor. The appendix becomes twisted on the peduncle, causing a proliferation of the processes." He had been reading a young doctor's essay on appendicitis and had become confused.

"Ah!" said the author of a recent literary work, just ready for the printers, as he awoke from an operation by a distinguished surgeon, for appendicitis, "I am so thankful that an appendix is not necessary to complete my work." But the surgeon thought his patient was making a general statement concerning the bit of tissue he had removed.

Progress of Medicine.

OBSTETRICS.

UNDER THE CHARGE OF

A. B. CATES, A. M., M. D. R. E. CUTTS, B. S., M. D.

PREVENTION AND TREATMENT OF PUERPERAL HEMORRHAGE.

Puerperal hemorrhage may be traced to various causes, may be associated with different diseases and conditions, may appear at any or all periods, and may vary in its degree from the readily controlled gush of blood to the alarming and even rapidly fatal loss of the life-sustaining fluid. One variety represents a comparatively frequent emergency for which one must be always prepared.

Probably the least common and the most dangerous form is what is known as "concealed accidental hemorrhage," which may occur before labor and act as a cause in its production or may appear during the progress of parturition. The more recent investigations have shown that albuminuria and nephritis stand out very strongly in a causative relation. The associated endorteritis eventually results in rupture of the blood vessels at the placental site, and, as a consequence, in nearly every instance, in death of the child from asphyxia.

In the only case of this kind which it has been my misfortune to encounter, I found at the time of my engagement late in pregnancy a woman who had been for years markedly anaemic. The urine showed albumen with a few casts. At the eighth month she fell in labor. Examination showed a markedly distended uterus, great uneasiness from the excessive fullness, an absence of foetal heart sounds and movements. During the progress of the labor at one time, the pulse of the mother became so feeble that strychnia and normal salt solution were the agents that enabled the woman to finish her delivery. Life terminated one week later because of the acute anaemia which was thus engrafted upon the chronic condition previously existing.

Concerning prevention, then, there is little to be said. It is something which cannot be anticipated. Nephritis being present must be treated with appropriate diet and tonics and the urine carefully watched. In those cases arising from a partial detachment of the placenta from injuries or from a short cord we are no better equipped in the way of prevention.

Treatment is limited practically to the rupture of the membranes if this has not already taken place and the administration of small doses of ergot together with the use of strychnia and salt solution, as indicated. Oxygen for the anaemia is worthy of trial whenever obtainable. In this as in other forms of puerperal hemorrhage too much stress cannot be laid upon the necessity of the most plentiful supply of fresh air.

The prevention of post partum hemorrhage in its strict sense involves careful consideration of its many causes. It necessitates the securing of good contraction and retraction of the uterus, particularly in prolonged and exhausting labors, often terminated by artificial extraction, under anæsthesia. It demands the avoidance of too rapid expulsion of the placenta. It includes the proper treatment of precipitate labor. It combats the effects of wasting diseases and previous debilitating hemorrhages. It requires extra precautions where excessive distension from hydromnios or twins is a potent factor. It takes into account any mechanical interference with the return of the uterus to its proper size. It compels in any ordinary case, the attention of the nurse or accoucher in kneading and compressing the uterus for at least one hour after the birth of the child. When hemorrhage actually begins promptness of action is essential. As a rule the uterus should be emptied. Should there be a retained and adherent placenta as a result of an old endometritis, it must be scooped away. Blood clots must be removed. In the absence of other means, the hand should be carried to the fundus, in the interior of the uterus, while the other hand exerts counter-pressure upon the abdomen. Another measure is the injection of hot water at a temperature of 110° to 120°. Pieces of ice within the uterus as well as upon the abdomen are extremely satisfactory in results. A clean cloth dipped in vinegar, carried by the hand up to the fundus and squeezed, will often surprise by its effectiveness. Ergot and strychnia, both administered hypodermically, should not be omitted. Atropia is a help if respiration be impaired. Cerebral congestion may be aided by morphia. Above all must be placed the use of the normal salt solution, if there has been any considerable loss. As a rule this is taken up quickly by the bowel when the amount of blood lost has been large. I have given as much as three quarts by the bowel. This was not only retained but absorbed. Hypodermoclysis is more certain but slower. The amount introduced is not so great. Moreover, the danger of infection and the formation of an abscess is considerable, owing to the necessary haste. The obstetrician should, however, be always prepared for it. The elevation of the foot of the bed to a height of two or three feet and even autoinfusion may be demanded. If the uterus be well contracted and still hemorrhage persists, a firm packing of iodoform gauze within the uterus and vagina is imperative. It seems needless to add that all rents should be repaired, unless the woman's condition be too serious to permit it. In any event packing or suturing is demanded when it is certain that the bleeding comes from a lacerated wound.

Placenta praevia is very commonly associated with an endometritis. Prevention points to the cure of that inflammation. Hemorrhage arising from placenta praevia is usually the first symptom to direct attention to that condition. Therefore, that is rarely preventable. Usually the first hemorrhage is light. Excessive hemorrhage may therefore be ordinarily avoided. With a lateral or marginal insertion the hemorrhage appears late and can generally be controlled by rupture of the membranes. With a central or partial implantation a woman is never safe after the first bleeding.

The induction of a premature delivery, the packing of the cervix and lower portion of the uterus, if necessary to secure dilatation and temporary control of the hemorrhage the bi-polar method of version of Braxton Hicks and the bringing down of a foot to act as a plug have given the lowest maternal mortality. Labor may be completed gradually and slowly by traction on the leg. This involves, of course, a high infant mortality.

The same dangers as in simple post-partum hemorrhage present themselves and the treatment is similar. The danger of sepsis, it must be borne in mind is infinitely greater. A.B.C.

Neurology and Psychiatry.

UNDER THE CHARGE OF
W. A. JONES, M. D.

A CASE OF DEATH FROM PSYCHIC INSULT, WITH REMARKS UPON DELIRIUM NERVOSUM DUPUYTREN, AND OPERATON PSYCHISES.

by F. Pagenstecher.

The author (Phil. Med. Jour. Apr. 14, 1900,) describes a case of sudden and unexpected death occurring apparently as the result of a very trivial injury to the finger. The man a Hebrew, was carrying heavy life insurance whose payment was vigorously contested by the company. The necropsy showed no adequate cause of death, and could rule out bloodpoisoning. Bacteriological tests and those for poisons which were carefully made proved negative. No mention is made of a microscopical examination of the brain and spinal cord, where as has been proven in other cases marked changes may have been present although there was no gross lesion apparent. The man had previously given no evidence of delusions.

The patient B., a merchant, 51 years of age, had carried heavy insurance for a long time but owing to a contested accident case of a relative had decided to change his company. In the process of making the change there was a short time when he would have the benefit of the insurance in both companies, and during this interval the accident and death occurred. Standing in his office he cut his finger with a penknife, and the pen behind his ear fell into the wound. He immediately became much excited, talked to his physician about blood poisoning, complained of pain in his arm and axilla, and fainted later in the office of a second physician. He passed a bad night and on the following morning his mind was wandering and he had auditory hallucinations. His pulse at that time was 70, soft and regular, his temperature was not taken. In the afternoon the author saw him to consider an operation but found a trivial wound, no appearance of infection of glandular enlargement, and physical examination showed the organs normal. On sitting up in bed the patient showed much weakness, however and the twitching of the mouth and face were striking. Within four hours he died, thirty-two hours after the injury.

The author briefly cites two other cases where excitement, convulsions, and delirium without fever occurred in apparently well men as a result of trivial injuries both of whom soon reached complete recovery.

He concludes that the death of B. was dependent on a very severe form of acute hysterical psychosis, occurring in a man predisposed to such a result, from fright due to an injury which he believed to be severe. W.A.J.

A CASE OF POLIENCEPHALITIS IN AN ADULT.

DeWitt H. Sherman, M. D., and William G. Spiller, M. D.

The authors (Phil. Med. Jour. Mar. 31, 1900) describe a striking case which presented the clinical picture of Landry's paralysis, and terminated fatally in thirty-eight hours after the appearance of the first definite motor symptoms.

The patient, R.C.T., a medical student, aged 21, of a good family history free from insanity or other nervous tendency, had always been strong and well, weighed about 150 pounds, and was at the time in apparently good health. He denied specific history. Occasionally had attacks of nausea and vomiting lasting for a few hours the last of which occurred 6 months before. One week before illness received a dissecting wound which was cauterized immediately and healed promptly, never showing any local infection. Dr. Spiller, however, says, "I cannot regard the wound obtained at a necropsy, as too insignificant for consideration."

The attack began with headache, nausea and vomiting, accompanied with normal pulse and temperature. Thirty-six hours later he was taken to the hospital having at that time a temperature of 100.8, pulse 88 and of good tension, a slight flush on the upper chest, but complaining of decided soreness over the diaphragm, and for the first time of weakness in the legs. Early the following morning he was suddenly attacked with difficulty of respiration, and within five hours was obliged to assist breathing by pulling with the arms. The diaphragm and lower intercostal muscles showed little movement but the platysma was acting conspicuously. There was no photophobia or facial paralysis, but all reflexes from shoulder down were absent. Electrical reactions were intact; he was not able to move his legs but could contract and relax his toes. Sensation was intact, not even delayed. Chest showed hyperresonance at both bases, with weak and distant vesicular murmur. Heart apex was situated in the sixth interspace, just outside the nipple line, and a systolic murmur was present at the mitral valve. Control of the rectum was perfect but he was unable to urinate. Urine showed indican increased and slight trace of albumen but otherwise normal.

Artificial respiration was begun at this time, but it is interesting to note that but one physician who saw the patient at this time agreed with Dr. Sherman that the case was serious, the others believing that it was of hysterical nature. Tracheotomy was done later to assist the use of artificial respiration, and the patient recovered well from the anaesthetic, but at midnight the heart became irregular, and he died 38 hours after admission to the hospital, when he could still walk and 22 hours after the alarming symptoms began.

Cultures showed a bacillus of the 'colon group' from liver and kidney but no growths were obtained from the brain, spinal cord or other organs. Microscopical examination showed intense cellular infiltration throughout the gray matter of the anterior horns of the spinal cord, and also in groups about the blood vessels. This infiltration was much less in the posterior horns. Cellular infiltration was found in the pia, and in the form of perivascular foci within the white columns. The bloodvessels everywhere were much distended with red blood cells. The motor nerve cells of the spinal cord were greatly degenerated, but the anterior rots were normal. These changes extended throughout the spinal cord, medulla oblongata, pons and cerebral peduncle to the basal ganglia, but were not very evident in the cerebral cortex and subjacent white matter, although even here the vessels were much dilated. The process was essentially a poliencephalomyelitis, although the white matter was not intact.

Dr. Spiller's conclusions are

1. Landry's Paralysis may be due to poliomyelitis, and a number of cases reported as Landry's paralysis are poliomyelitis.

2. Poliomyelitis is an infectious disease, probably resulting from invasion by different forms of bacteria, and the inflammation is greatest in the anterior horns, but occurs in the posterior horns, in the white matter, and the meninges.

3. The symptoms are motor in type because the disease is especially one of the anterior horns.

4. Meningitis is not uncommon in poliomyelitis.

5. Poliomyelitis in the adult is essentially the same as poliomyelitis in the child.

6. Poliomyelitis is closely related to the non-purulent form of encephalitis and to the polio-encephalitis superior of Wernicke. W.A.J.

THE HEALER.

To a young physician, with Dore's picture of Christ healing the sick.

So stood of old the Holy Christ
Amidst the suffering throng;
With whom his lightest touch sufficed
To make the weakest strong.

That healing gift he lends to them
Who use it in his name;
The power that filled his garment's hem
Is evermore the same.

For lo! in human hearts unseen
The Healer dwelleth still,
And they who make his temples clean
The best subserve his will.

The holiest task by heaven decreed,
An errand all divine,
The burden of our common need
To render less is thine.

The paths of pain are thine. Go forth
With patience, trust and hope;
The suffering of a sin-sick earth
Shall give thee ample scope.

Beside the unveiled mysteries
Of life and death go stand,
With guarded lips and reverent eyes
And pure of heart and hand.

So shalt thou be with power endued
From Him who went about
The Syrian hillsides doing good
And casting demons out.

The good Physician liveth yet
Thy friend and guide to be;
The Healer Gennesaret
Shall walk the rounds with thee.

—J. G. Whittier.

Mrs. Wellment—Poor fellow! Have you no friends?

Beggar (sobbingly)—No, leddy; I hain't got nothin' but relatives.

*YAWS AND SMALL-POX.

A Brief Diagnostic Description, Etc., by R. L. McMurran, M.D., Portsmouth, Va.

(Virginia Medical Semi-Monthly.)

It is a well-known fact of history that whenever great wars occur diseases follow in their wake. When large bodies of men are encamped and thrown together, without adhering strictly to the laws of sanitation, outbreaks of contagious and infectious diseases will naturally follow; and if not taken in their incipiency and stamped out, they spread in alarming proportions to every inviting field, even outside of its geographical locality.

It is also well known that distribution of diseases is largely dependent upon the physical condition of the various countries of the world. It has long been know that certain diseases are epidemic, or peculiarly prevalent at all times, or at certain seasons of the year, in particular countries and regions. The ancients knew this, and recorded many interesting facts in relation to it; but the great idea of a generalization of the known facts, and of a systematic and thorough search after new and unknown ones, originated in this, the nineteenth century. The health of man and the lower animals depend largely upon their environments. Latitude, elevation, surface of country, climatic zones, and isothermal lines, variations of temperature, the geological and chemical character of the soil, water distribution in air and soil, the vital characters of the different races, the injurious and salutary influences of vegetation—these are some of the questions which must be considered in discussing the distribution of diseases. But it is needless to discuss this. As I have just said, wars presage the coming of diseases. We have been engaged, and are now, in war, in a tropical country, where diseases are especially prevalent; and, naturally enough, we are to-day face to face in conflict with a disease which is uncommon in this locality. In all our battles in Cuba and the Philippines, the number of those killed and wounded are insignificant as compared with those who have ben stricken or died of diseases.

It is not my purpose to discuss the causes which brought this particular disease, of which I shall speak, into the northern portion of the United States; whether it was through carelessness of the officials, or an act of Providence as a scourge upon us for our greed of conquest, or any other reason, I do not know. But it is apparently here to-day; and if I can, in my feeble way, throw any light on the diagnosis of this disease, I shall be much gratified.

I do not propose to deny the existence of genuine small-pox in this or other localities of the country, for I have seen some very malignant cases of confluent small-pox in my practice, but I will endeavor to show to the members of this Society, at least, in my humble judgment, that a great number of the cases that have been diagnosed by the members of our profession may not have been small-pox, but the disease I shall briefly describe:

HISTORY AND GEOGRAPHICAL DESCRIPTION OF YAWS.

Definition and Synonym.—Yaws is an infectious, contagious, skin disease, characterized by papilæ and granular ulceration of the epidermis, which may be discrete or confluent. The confluent is the febrile; the discrete is the non-febrile. The disease is supposed to have originated on the western coast of Africa, near the Gulf of Guinea, in the earliest century, and was due to the filthy and unsanitary condition of the natives; and it was brought to America by the slave trade and carried back to Old Europe many years after the discovery of America by Columbus, in 1492, by his soldiers. The foci seems to have found a fertile field of development in lower Europe at the time, and spread rapidly all through that country, and was thought by them to be leprosy, syphilis, etc.; numerous other names were given to the disease, but the most common name is that given by the English writers, known as Yaws, and by the French as Pian.

Etiology.—This disease has a specific virus that was supposed, at first, to find an entrance into the skin by an abrasion, but this has proven not to be the case, as it may be carried by domestic animals, especially cats and dogs, and by such insects as flies and mosquitoes. Race seems to have a direct bearing on the etiology of the disease. The Negro is more susceptible to it, due, it is presumed, to his horrible, filthy surroundings and unhygienic methods. Of course, the whites finally contract the disease by having negro servants. This disease was thought to be confined to certain localities. I have endeavored to show, by the geographical distribution, that it is not limited to the tropics, as it was formerly thought to be. The disease spreads more rapidly during or just after a wet spell of weather, and, owing to the great humidity in the atmosphere, will account for the spread of this disease in our sea-coast cities. It is very rare in high, dry, atmospheres.

Morbid Anatomy.—Hamilton, in his work of Pathology, points out that the type of structure of papilloma is based on that of a papilla, the distinction being only one of degree. "In papilloma, the blood vessels are enlarged and dilated, the connective tissue is much increased in quantity and forms the bulk of the growth, and the epidermal covering is greatly proliferated, whereas the enlarged papillæ of the yaws, the granuloma, are made up chiefly of granulation cells, and the papillæ themselves are devoid of all epidermal tissue, the external protection being afforded, as will be seen later on by the yaws crust." The eruption is divided into

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*Read before the Seaboard Medical Society, in session at Newport News, Va., Jan. 12, 1900.

three forms—the squamæ, the papular and the granuloma. These, in fact, are the three stages of the disease. Owing to the disease being modified by a change of climate, we have not been fortunate enough to see the first stage or squamous, but the disease seems to have been either the papular, or, as I shall term it, the discrete form and the granuloma or confluent form. The squamous form is characterized by harsh, dry, whitish patches, which appear on various parts of the body and limbs, more especially on the exposed surfaces; rarely on the mucous membranes. When examined closely by means of a lens, is is found to be an affection of the horny epidermis, and we can often see the flakes of epidermis turning upward on account of being free at one end, which gives the skin a ragged appearance, and termed by the negroes in the West Indies yaws coca. After the period of initiatory symptoms, varying from four to twelve days, there appears a papilla pushing through the horny epidermis. When the papilla becomes about a milimetre in size, it is found to split, and a depression forms in it which is filled with a yellowish-looking matter that has the appearance of pus, but when examined closely by means of a lens, it is found not to be pus, but a cheesy matter which can be easily detached.

The granuloma type of the disease is characterized by large tubercles or yaws. These tubercles increase in size in all directions, and then as it grows it is filled with a yellow matter, so as to form a cap or yellow incrustation. The smaller tubercles are invariably rounded at their summit or edge, the large ones become tuberculated or depressed in their center. The whole of the face and other exposed surface of the body are incrusted by one mass, and, as I have seen it, peel off in sheets, leaving an engorged dermal tissue. These incrustations finally dry up, leaving brownish or pale pink spots on the surface of the skin; on the negro and mulatto you will find black spots. These spots are found only on the true skin, and are rarely ever seen on the mucous membrane; and, owing to slow absorption and drying up and falling off of the epidermis they finally disappear.

Symptomatology.—The period of incubation varies from ten to fifteen days and as long as six weeks. In the non-febrile form there are no prodromic symptoms. The eruption appears without any constitutional symptoms or any marked impairment of health. The patient is able to attend to his usual duties while the eruption is on him in most cases. The febrile form is marked by considerable constitutional symptoms, being ushered in by a rigor, followed by a temperature ranging from 100 to 103, with nightly exacerbations. There may be some disorder of the bowels, and the patient has what is known as yaws' pain, accompanied by severe headache, pains all through the body, more especially in the long bones and to some extent in the small of the back. All of these symptoms disappear upon the appearance of the eruption, and there is no secondary rise of fever when the tubercles become encrusted with the yellowish matter, thereby forming one of the chief diagnostic points between this disease and true small-pox. This disease has practically no odor, except in the negro race, which is probably due to their filthy habits. Itching is a common symptom.

Differential Diagnosis—As we are all familiar with the principal symptoms of small-pox, I shall only briefly recapitulate a few diagnostic points that will enable us to differentiate between these two diseases, and briefly describe cases of the two diseases that have come under my personal observation.

As we all know, the stage of incubation begins immediately after the reception of the virus into the system, and ends at the time when the symptoms of small-pox develop. This period varies from seven to fifteen days. After the period of incubation the patient is generally taken with a violent chill, which affects more or less the whole nervous system. In young children it may sometimes cause convlusions. The chill is followed by a sudden rise of temperature, varying from 101° to 105°F. There is always a boring, aching, pain in the lumbar region. There may be more or less pains in the pit of the stomach and joints of the body; nausea, accompanied with a severe pain in the head, may be present. The pulse varies both in tension and rapidity, according to the severity of the attack. The rate of respiration is generally not in proportion to the pulse and temperature, being very quick. All of these symptoms lessen when the true eruption of small-pox appears. Then there is a lull in the fever and other symptoms until the pustular stage develops. Then the secondary fever occurs with all the accompanying symptoms due to absorption of pus and other septic matter into the system. In genuine small-pox true dermatitis exists, affecting the epidermal, the dermal, and also the endermal layers of the skin; whereas, in yaws, the epidermal, and rarely the dermal, and never the endermal layers are affected. The mucous membranes will always show signs of the eruption, but I have never seen a case where the mucous membranes showed any signs of the eruption in the disease that I believe has visited us for the last two years. As I have heard an able health officer, in my locality say, that he had opened the pustule of the so-called modified small-pox cases and found that the connective tissue underneath the pustule was not diseased, and it did not leave a pox-mark afterwards. According to Osler and the other authorities that I have read, who have tried opening the pox to prevent pitting, they found it to fail in preventing pitting. The odor that I have always found present in small-pox is another means at arriving at a positive diagnosis.

The secondary fever in true small-pox is another means. Of course, this symptom is not always present in varioloid.

Another reason, which first led me to believe that all the cases that have developed in this locality were not true small-pox, is, because I have seen vaccination take during and just after the patient had the disease, having used the purest lymph that could be obtained. I also observed a patient, who had several years previously an attack of confluent small-pox, with marked pittings, and afterwards contracted this disease; and the case was not of a mild type. Afterwards I could not discover any more pittings on his face than formerly.

I was called in to see Mr. L. P., age 26, on February 16, 1899, and found him suffering with a slight headache and pains in his back; temperature 101°, pulse 118, respiration 20; having been taken sick that afternoon, as he described it, "with a slight chill and a cough." His bowels were constipated. Upon examination, I found his throat somewhat inflamed and tongue heavily coated with a brownish appearance. I at once suspected that the case would develop into true small-pox, as his occupation was that of a bar-keeper in a locality where I knew small-pox existed, and that he had been exposed to it. On the morning of the 19th instant, I observed a few pimples on his forehead and on the bottoms of his feet. I immediately isolated him and waited for further developments. The following day, I noticed a papillar eruption all over his face and on the mucous membranes of his throat and mouth, and a few pimples on his arms and legs. By the morning of the fifth day, the eruption extended all over his body; and I do not think there was a space as large as a five cent piece that was not covered with eruptions. These papular eruptions then went through the regular stages of the disease, and by the morning of the twelfth day the whole body was a mass of confluent sores, emitting a horrible, peculiar odor, such as is general in confluent small-pox. The tongue became extremely swollen, and upon examination, I found the throat in the same condition—showing that the mucous membranes were as much involved as the skin. The temperature ranged from 103° to 105°F. The pulse from 140 to 190, and the respirations from 22 to 38, till the twenty-second day of his illness, when he died. This was a genuine case of small-pox.

On February 17, 1899, I was called to see Miss G. Y., age 24; found that she had a chill the night before and complained of pains in her head and in the long bones and slight pains in her back. After examination, I found no inflammation of the mucous membranes of the throat and mouth; temperature 101°, pulse 100, respiration 20; bowels constipated. I ordered a saline purgative; a little phenacetine and salol to be given her. The next morning I found her temperature 100°; other symptoms same. On the morning of the fifth day, I noticed some vesicular eruption on her forehead, hands, and slightly on her breast. Upon examination during this visit, I found the temperature normal as well as the pulse and respiration. I still found no eruptions on the mucous membrane of the mouth or throat. Her condition continued to improve with no impairment to her general health. The tubercles peeled off and I did not observe any pittings afterwards on her face. Neither this patient nor L. P. had ever been vaccinated. The symptoms of this case were entirely dissimilar from those of L. P., and resembled yaws.

While my views have been hastily and crudely drawn, I have tried to present before this society the salient symptoms, and hope other members will throw further light upon this disease, which has been called impetigo contagiosa, modified small-pox, and various other names. I may be wrong in my diagnostic conclusions, and it is with great reluctance that I express my views, but I recognize the fact that it is upon such occasions as this that we meet together to discuss important subjects, in order that we may find out the truth. Whether I am right or wrong, if a thorough research is made and some definite conclusion arrived at, then I will have accomplished my purpose and feel that I have not spoken in vain.

MYSTICISM AMONG THE NEGROES.

Dr. F. Julian Carroll of Summerville, S. C., writes very entertainingly of the superstitions and voodooism of the negroes (N. Y. Med. Jour., April 21, 1900). A colored woman who follows the time-honored occupation of "muntly nuss" assures the doctor that a child born on "de wanin' ob de moon" must needs be "poley" and badly nourished, while one born on "de fillin' ob de moon" is correspondingly lusty and well developed. The description of a "spell" and its cure are thus described.

"Only a short time since a negro man entered my office and promptly began a long and rambling discourse on nothing in particular and everything in general. Knowing this to be a characteristic of his race when they want to tell something which they rather hesitate about communicating, I patiently waited for this man to come to the point. Finally, after a prolific display of oratory, unexcelled by even a modern prize fighter, my patient declared himself the victim "ob de spell." I was not up on "spells," and wanted to put my patient off until I could look into the subject a little more carefully, and, with a spirit of accommodation entirely worthy of a druggist, I offered in the meanwhile to treat him for "something just as good —if not better." Indeed, I rather sneered at the idea of his "spell" and tried to convince him that such luxries were above his station. This did not work worth a cent, however. He thought he knew a spell when he saw one, and he had not the faintest idea of being juggled out of it by a few fine words.

"He had come by this spell honestly (which, to say the least, was a unique experience for him), and he clung to it now with touching tenacity. Had he not stayed up nights with this spell, nursing and coddling it? Had he not kept it out of harm's way, shielding it from sunshine and rain? And now, after all these months of care, was he to lose this companion of his bosom in this commonplace manner? Oh. no; if go it must, it must go in regulation fashion! Must go out "lack a rorin' lion," as my patient explained.

"I was at a loss to know how to accomplish this leonine exit. I looked through all the medical literature at my command without gaining the slightest information on this important matter. Either the authorities were singularly ignorant or singularly negligent on this subject.

"Finally, I was inspired to consult an old physician of my acquaintance who had practised extensively among the negroes, and who, as luck would have it, was a vertiable mine of knowledge in this direction. In other words, as he modestly expressed it, he was 'hell on spells,' and he gave me the desired information freely and cheerfully.

"His mode of treatment as detailed to me is so simple, so unique, and so eminently successful that I venture to give it in full for the edification of the public and the benefit of those who may themselves suffer from, or have relatives and friends the victims of, 'de spells.'

"As explanatory of the following treatment, I may say that the negro believes his 'mis'ry' to be caused by a reptile inserted into his economy through the medium of a 'spell,' and that until he can rid himself of this parasitical pest his recovery is impossible.

"As to the treatment, then: The paraphernalia are simple and inexpensive, the necessary implements consisting of a sharp scalpel or knife, a tumbler, a candle, and a live lizard or frog—preferably the lizard.

"The technique is a little more complicated, but can easily be mastered in one lesson. It is as follows: Having notified your patient that at a certain hour of a specified day or night you will visit him and expel his tormentor, you repair to his house with the utmost punctuality at the appointed time. Entering the sick-room, you go promptly to the patient's bedside amid profound silence from the inevitable gathering of relatives and friends, and standing over him you make a number of mystic passes over his body until you have located the seat of his 'spell.' The spell-ridden area is now laid bare, and with much ostentation you proceed to mark it out in chalk. This done, you place your patient upon a table and darken the room, if it is daylight, or blow out the lights, if it is night. This latter precaution will, however, usually be unnecessary, as among this class of negroes light is apparently regarded as injurious, and is rigidly excluded from the sick-room.

"Next, having made the assembled onlookers go into another room, if such there be, or out of doors, if no such room exists, you light your candle and begin your seance.

"The first step is to place the inverted tumbler over the lighted candle. By this means the air in the tumbler is exhausted and a partial vacuum created, which, as we shall see later, is an important part of the programme.

"A rapid incision is now made through the skin in the area previously mapped out. This cut must be sufficiently deep to draw blood rather freely. This done, the inverted tumbler is quickly placed over the wound and the patient's attention called to the resulting phenomena.

"The interior of the tumbler having, as explained above, been converted into a partial vaccum, the blood is sucked up in bubbles, the tumbler meanwhile turning and wabbling around in a manner weird to behold.

"During this process the operator should repeat an incantation suitable for the occasion. Bonus, bona, bonum, solemnly and impressively delivered, will be quite effective and won't strain the doctor's knowledge of Latin too much.

"If the doctor is very learned, however, and should desire to completely subjugate his enemy and win the undying admiration of his patient, he may get off something like veni, vidi, vici et sic transit gloria mundi et sic semper tyrranis, e pluribus unum, etc. This array of knowledge may be turned and shuffled around at will, and for the purpose in hand will prove an undoubted vade mecum.

"After keeping up this conjuring business for a reasonable length of time, place one hand over the tumbler to prevent the patient from seeing your manipulations, and with the other deftly insert the live lizard under the tumbler.

"The lights are now turned on and the relatives and friends called in to witness the result of your skill and magic. The lizard naturally struggles violently in his confinement and soon manages to cover himself with the escaping blood, thus destroying his identity and assuming an appearance really blood-curdling.

"The impression produced upon patient and audience alike is immediate and profound. The sufferer attributes all his sufferings to the mysterious little beast struggling around under the tumbler, and his gratitude at his deliverance is unlimited. 'Teng Gawd! Teng Gawd!' he will devoutly exclaim then. 'Look a' da lettle debbil a jumpin' roun' dere—das de way him bin a-doin' een mah in'ards. Bress Gawd, Doc, yuh got im out. Him wud a suttin kill mah ef um stay een dar enny mo'—en das de Gawd's truf!'

"The assembled company will assuredly assent with solemn unanimity: 'De Gawd's truf!'

"The doctor now takes the lizard from under the tumbler and puts it carefully away in a paper box prepared for the purpose, assuring the audience as he does so that the box is of special make and material, and that it is the only kind of box which will hold this terrible reptile safe. He likewise carefully collects all the implements used in the process of 'spell' ex- 'spell'ing. This done, he wisely takes his departure, so that the awe of the negroes for the sorcerer and the instruments of his sorcery may not be lessened by familiarity.

"The result, so far as the afflicted one goes, is all that could be desired. The pain "dat move frum mah hed ter mah back en chuns roun' in mah stumick" disappears as if by magic (which, indeed, is not to be wondered at). The patient's desponding spirits revive at once, and health is completely restored to one who has been ailing for months.

"The foregoing recital may seem to be a fantastic distortion of facts to suit the writer's fancy but I give the details substantially as I got them from the old physician previously alluded to. He in turn 'caught on,' as he says, to this treatment by watching the antics of a voodoo doctor who had a great reputation for curing spells. Later, from questioning negroes, I have convinced myself that such scenes as I have attempted to picture are not at all of infrequent occurrence.

"As to the good results of this treatment, they are, of course, purely mental, as the disease is purely mental, and the really astounding improvement in a patient's condition after getting rid of this 'spell' is an interesting evidence of the potentiality of the mind in causing as well as in curing disease. This is a lesson that a great many physicians would do well to bear in mind. The "Christian Scientists" long since grasped this fact, and the knowledge of it constitutes their sole power in the cure of disease."

TYPHOID FEVER AND WATER SUPPLY.

This time-honored subject is well discussed in the January, 1900, number of the Pennsylvania Medical Journal by Edmund W. Holmes, A. M., M. D. The author classifies his subject as follows: A. A brief dissertation upon typhoid fever; B. The purification of water; C. Sources of water supply for cities; D. The principal methods of filtration; E. Resume and conclusion.

Commenting at section B, the author says:

THE PURIFICATION OF WATER.

"Only a few bacilli have been definitely determined to be the germs of disease. Air and all natural waters and food contain germs. They are the scavengers, and are tremendously useful to man by destroying organic matter. The harmless bacteria wage war upon the pathogenic organisms by direct destruction, or by eating up their food, the nitrogenous material in the water (and for this reason the quantity of organic material is regarded as one test of wholesomeness), or by poisoning them with their ptomaines; and they themselves finally becoming poisoned or exhausted, sink to the bottom in the settling reservoir. In this way sedimentation is of importance in the process of clarification and purification of water.

"Pure water is better than filtered water; pure water however is not C. P., but water devoid of matter which would be injurious to health, not necessarily free from germless bacteria. Rain water is a long way from being C. P., especially if it is caught and kept in a foul cistern. Well water may be bright and sparkling and pleasant to the taste, yet such water from such a well at Broad street, London, during a cholera epidemic carried death by its use, and was closed by the authorities in the face of great popular clamor; while insipid and cloudy water may be harmless because the impurities may have no hygienic influence; turbidity, therefore, is not necessarily of evil result. Micro-organisms multiply with extraordinary rapidity, so the greatest care must be taken to protect the water supply, the most serious item of contamination being the introduction of sewage. Even purified sewage is a source of danger. Numerous bacteria indicate the existence of a sufficient quantity of food soluble in water. A few hardy species moy grow in a poor soil, but numbers and colonies show that the pabulum must be rich. Koch's standard is the one usually followed that a well-managed filter should deliver a filtrate containing less than a hundred germs per cubic centimetre irrespective of the number in unfiltered water.

"Pure water is naturally of a bluish tint, a greenish color may be caused by algae, a brownish tint and turbidity by mud; a yellow color with characteristic odor if slightly warmed by urine; black by the culm from the mines. A fishy taste may come from the presence of trimethylamine produced by the bacteria of putrefaction or by algæ, which, though unpleasant, may not be unwholesome; earthy and vegetable flavors by the presence of the larger living aquatic plants. Dr. Leeds reported in 1882-83 that the bad taste and smell of our Philadelphia water was then due to a superabundance of putrescible material. The rainfall was that year small, the river low, a continuous coating of ice in the cold months interfered with oxidation, so that organic material decomposing out of contact with the air produced ill smelling compounds, and gaseous products so abundant that it was possible to ignite them at small apertures in the ice, the flame being sometimes three feet high.

"Water is purified in nature (1) by the destruction of pathogenic germs by non-pathogenic; (2) by hydrolysis, the splitting up into simpler form; (3) the conversion of soluble organic into insoluble compounds by the action of oxygen and water; (4) the oxidation of NH_3 into nitrites and nitric acid.

"Atmospheric oxygen will not act on organic matter without microbes. Urine and the drainage from manures being mixed with alkalies and exposed to the air have their organic carbon changed into carbonates, the nitrogen into ammonia, in turn changed into nitrites and nitrates in which simpler form it becomes mineralized and no longer injurious. In the arts in the manufacture of saltpetre, this process of "nitrification" has long been known.

"In almost all soils and water there are two natural nitrifying organisms which tear asunder objectionable nitrogenous materials, and convert them into harmless inorganic forms even sometimes valuable as plant food, turning ammonia into nitrites and the nitrites into nitrates. These harmless nitrifying organisms are of extreme utility in purifying water, but their activity depends on certain conditions:

"(1) The solutions must be neutral or alkaline (acids stop the process).

"(2) The presence of air; this nitrification does not occur more than five or six feet below the surface, and then only when soils are porous, as in sand or gravel.

"(3) The action is more vigorous in the absence of light; so in waters subjected to strong, full sunlights the harmless as well as the harmful micro-organisms may be killed.

"(4) A small fraction of free oxygen.

"(5) A base preferably calcium carbonate to fix the nitric acid.

"(6) The presence of some phosphate.

"(7) Temperature 98 degrees F.

"In water loaded with organic matter denitrifying living organisms flourish and may reconvert nitrates to nitrites, and subsequently into nitrous and nitric oxides and even into nitrogen gas. Ammonia is almost entirely absent in pure water, so that its presence is a sure sign of pollution.

"The action of the organism is mainly confined to the upper layers of soil, as we have said rarely lower than six feet. Direct oxidation does not then seem to be a factor of any considerable importance in the purification of polluted water as ordinary oxygen does not exercise any rapid oxidizing power upon organic matter. The most powerful oxidizing and the most powerful chemical agents being required; and atmospheric oxygen will not act on organic matter without microbes; Dr. E. Frankland was led to declare that water containing 20 per cent. of sewage would not become purified in 200 miles (! ?). The River Pollution Committee of Great Britain (page 185) declares there is no river in the United Kingdom long enough to effect the destruction of sewage by oxidation. So to think of getting rid of organic matter by exposure to the air for a short time is absurd; but aeration lessens the growth of algæ, with their odors and colors and foul gases in solution. As the specific gravity of bacteria is but slightly greater than unity, they sink slowly in still water, still less slowly in rapidly flowing water. The practical proof of which is the distance through which typhoid germs are carried by streams, as from Lowell to Lawrence, a distance of twenty-five miles; but while the sterilizing action of sunlight upon the upper portions of the water is found to be very marked, a thin layer of water will cut off an immense amount of the germicidal power of sunlight.

"Sedimentation and oxidation are thus overestimated. What is generally attributed to them is probably the result of dilution of the poison by dispersion.

"The removal of bacteria therefore by a filtering process is not merely a straining, but also makes the conditions unfavorable to the life of the pathogenic bacteria, so if all organic matter is removed, the few remaining bacteria responding to the test of purity tend to decrease even after the water has left the filter, as is shown at Lawrence Mass. At the tap at the City Hall the microscopic test showed less per C. C. than when the water left the filter.

"Nature then effects the purification of water, not by mere straining, but by filtration through the upper layers of the soil aided by sedimentation, oxidation, aeration, dispersion and dilution, but principally by the process of nitrification; we are the children of nature, and cannot do better than imitate her methods, always bearing in mind Pettekofer's (p. 63) wise declaration: "Filth is like gunpowder, for which cholera is the spark; a community had better remove the gunpowder rather than try to beat off the spark." As has been well said of cholera, so of typhoid tll, 'we may lay aside all pedantry and mystery talk of epidemic constitution, pandemic waves, telluric influences, cholera blasts, etc. Cholera (typhoid fever) is a filth disease caried by filthy people (water) to filthy places; we eat and we drink cholera (typhoid); we cannot catch cholera (typhoid) as we can measles, scarlatina or whooping cough.

"How effectual may we make the means at our disposal in arresting or warding off epidemics such as the present?

"In the French army garrison from the use of improved water supply the typhoid cases diminished from in 1886, 7,771 cases, 964 deaths, to 1894, 3,060 cases, 530 deaths.

"Taking the thirteen cities in Massachusetts before the introduction of improved methods, deaths from typhoid, 7.94 par 10,000 inhabiatants; after introduction, 3.83 per 10,000 inhabitants.

"Also let me cite quickly the well-known epidemic of cholera at Hamburg, August to November, 1892.

"Hamburg and Altona were two municipalities adjoining, separated from each other by imaginary boundaries only, each being a separate municipality. In 1892, Hamburg took water from the Elbe just south of the city; the water was slightly turbid, yellow, with some odor and unpleasant taste, and after imperfect sedimentation was passed directly to the consumer.

"Total cases of cholera, 17,020.

"Deaths from cholera, 8,605.

"Mortality, 50.05 per cent.

"Altona took its water from the same river, eight miles below a point at which the combined sewage of three cities with 800,000 people is received. Cholera germs were found in the Elbe river and in one of the Altona basins before filtration. Hamburg did not filter, Altona did. Cholera in Hamburg went right up to the boundary line of Altona and then stopped. Still more, at one part of Hamburg there was a large court called the Hamburg Platz, containing seventy-two separate tenements, accommodating about four hundred people, the yard was supplied with Altona water, and not a single resident was attacked with cholera.

SOURCE OF WATER SUPPLY FOR CITIES.

"Ancient Carthage had cisterns for the storage of water, which was brought from springs sixty miles distant.

"Rome had three hundred and eighty-one miles of aqueducts, some sixty-one miles long, supplying the city daily with three hundred and thirty-two gallons per capita. The Claudian aqueduct cost over $12,000,000, with an opportunity for breaking the force of flow and for sedimentation in the ancient castella.

"Water supply for cities may be thus classified (Mason): Pure spring water from mountain springs—Munich and Vienna. Vienna, however, gives a total of a hundred and four deaths, or 7 per 10,000 inhabitants from typhoid.

"Filtered river water—Berlin. .9 per 10,000 inhabitants.

"Unfiltered river water—Pittsburg, 12.7.

"Artesian wells—Charleston, S. C. 9.8; Memphis, 5.1.

"I need only refer to the numerous artesian wells near Yankton, Dakota, in depths from five hundred to sixteen hundred feet, and that one at St. Louis, Mo., 3,843 feet, to emphasize the danger of sewage contamination in a community like ours, while admitting the possibility of a limited supply. Prof Carter, of the Central High School, suggests that such wells sunk in Fairmount Park would be free from this objection, and would supply sufficient water for drinking purposes, but this would entail a separate set of pipes.

"Lakes—Chicago, 7.2; St. Paul, 6,9.

"Impounding reservoirs—Boston, 3.9; New York, 2.3.

"Impounding reservoirs, filtered—London, 1.7; Paris.

"Paris (2.5) is supplied by spring water and artesian wells, but is now considering filtration.

"Tube wells are said to have been first suggested by soldiers in the Civil War searching for water with their gun barrels, but they were used by the Chinese two thousand years ago. It should never be forgotten that wells in country and city are always exposed to great risks of pollution.

"In this country we are far behind in the methods of purification of water. We may enumerate as employing slow filtration the following large cities:

"Amsterdam, The Hague, Hamburg (since May, '93) Berlin, Rotterdam, Warsaw, Zurich, Edinburgh and London (Puertes).

"The average daily supply to London from the Thames in November, 1893, was a hundred and twenty-three million gallons. This robs the other towns of the Thames valley, and subjects them to a heavy expense in treating their sewage (Rideal). It has been proposed to bring water to London from the mountains of Wales, by gravity through two aqueducts of masonry and concrete, one 150 miles, and the other 175 miles long, going under the Severn by a siphon pipe 13½ miles long, and by iron pipes over valleys, with service reservoirs at Elston and Banstead Downs, at a level of three hundred and twelve feet, giving 415,000,000 gallons per day, served by gravity alone to any part of London.

"Frankfort-on-the-Main has a double water supply, one for drinking and the other for ordinary purposes.

THE PRINCIPAL METHODS OF FILTRATION.

"In view of the present public discussion of the water question, let me run over briefly with you the principal methods of filtration:

"1. The slow sand filtration—the section of this so-called 'low rate' or 'English filter bed system,' covered in if ice forms, and usually one acre in extent, is as follows:

48 inches of water.
36 inches of fine sand.
12 inches of coarse sand.
9 inches of fine gravel.
9 inches of coarse gravel.

"2. Mechanical filtration or American filter or 'high rate' system: Add say one-quarter to one-half grain up to 7 grains of alum per gallon, and then pass the water into a filter, which is a cylinder of wood or boiler iron, three-fourths full of fine sand. A gelatinous precipitate of hydrate of aluminum is formed, which entangles all suspended matter and disease germs, and deposits them upon thesurface of the sand, from which it is driven off into a waste pipe by a reversed current of filtered water. The proper dose of alum is regulated by an automatic device, so that no alum accompanies the filtrate.

"3. The Anderson process: Here water is forced into cylinders on hollow trunnions, the water being kept bright by attrition by being brought into contact with the borings and punchings of cast iron, and afterwards cleansed of ferric hydrate by precipitation through a sand filter.

"4. Spongy iron has been used for a similar purpose.

"5. Distillation will insure freedom from contamination, and is employed in every vessel in the navy.

"6. Applied electricity: By electrolytic decomposition of water itself; the germicidal power of so-called electrozone, which is produced by decomposing a weak solution of sea water with current from a dynamo, is due to the presence of sodium hypo-chlorite and not to ozone.

"7. The Webster process: In this the hydrated oxide of iron resulting from the disintegration by the current acts as a precipitating agent.

"8. By another method alumina is used. The hydrate of aluminum being precipitating power.

"These methods therefore ultimately become chemical methods akin to the alum-filtration cisterns; Prof. Easby reports that at Louisville, Ky., experimentation showed the electrolytic process for the formation of a coagulent does not compare favorably with the use of sulphate of alumina (p.226), and it hardly seems necessary to state categorically that we cannot as yet kill the bacteria by the alternating current applied to the spine and extremities of each individual bacillus.

"Iron, iodine, chloride of lime, permanganate of potash, have all been suggested for use in purification of water. The Jewell Filter Company uses as a coagulum a basic sulphate of aluminum made by mixing sulphate of aluminum with caustic soda.

"9. Stone filters are merely strainers, not filters. Sponges are easily contaminated, as are the "charcoal filters." Water from one of these charcoal filters is said to have contained 6,958 germs per C. C., as against 1,281 per C. C. in the unfiltered water (Mason, p. 169).

"10. In the Pasteur filter the candle is made of porcelain; the water pressure does not force the bacteria through, 'they grow through,' so constant cleanliness is an important adjunct.

"11. The Berkfelt filter is of infusorial earth, made of minute salicious skeletons of fossil animalcules called infusoria, and is much more porous than porcelain; this is a disadvantage.

"In the household filters, cleanliness is of such importance that neglected they become dangerous rather than protective. It is safer therefore in times of epidemic to boil the water after filtration.

RESUME AND CONCLUSION.

"I promised myself in the beginning I would not discuss more than the principles underlying the question so far as Philadelphians were concerned, as the local conditions were until recently the subject of investigation by competent experts appointed by the mayor of our city. As such report has been submitted to councils, and is now public property, and the question is soon to be submitted to a public vote, let me remind you in summing up our foregoing discussion that the slow filtration plant, properly managed, is a close imitation of nature's methods, but that the turbid water must first be pumped into settling basins to get rid of the coarser dirt, and then after passing through the filters, must be subjected to continual and repeated chemical and bacteriological examinations. As Prof. Easby has clearly stated, 'in many waters, the physical, chemical and biological characteristics are themselves often subject to such wide variation that no system of filtration which is not susceptible of a ready adaptation to these changes can prove economical.' And again, 'In filtering a crude water which is subject to wide variations in its character, the filters can be operated with increasing economy as their nature and extent of these variations become known by physical, chemical and bacterial analyses.'

"Let us hope, therefore, that the methods recommended by these able experts may be efficient; that our water may cease to be a disgrace to our beautiful city. Let us also remember that a dirty filter bed is but an added menace; that mal-administration may be as deadly as the absence of facilities, and that 'eternal vigilance is the price of liberty.'

"1930 Chestnut St., Philadelphia, Pa."

MILK LEG AS A SEQUEL OF TYPHOID FEVER.

Our next case shows one of the rarest sequelae of typhoid fever. The patient was admitted two weeks ago, suffering from an ordinary attack of typhoid fever. There was nothing remarkable about the case, it presenting the usual symptoms, with no especial intestinal irritation. Within two days, or during the fourth week of the fever a hardening and swelling of the left leg has appeared.

It began with considerable pain in the whole leg and this was soon followed by the swelling, which extends to the foot, but is most obvious in the thigh. The leg is rather livid, but there is not edema, strictly speaking. There is a hardening felt at the junction of the internal saphena with the femoral vein but not a great swelling of the veins of the leg.

Is this a common affection in typhoid fever? In my experience it is not. On looking over my hospital records I find that no year of my service has been free from cases of this sort, but there has not been over two or three in any year, with the exception of one. That one was last year, when so many soldiers were brought in from Cuba. There were thirty-six cases of milk leg among these. A second fact illustrated here is that the affection is one of convalescence rather than earlier, it rarely being seen during the height of the fever. Again, as bearing upon the clinical course, we have had here what is the rule—the greatest tenderness in the calf of the leg. I have in some cases detected this tenderness before the other symptoms manifested themselves and lay great stress upon this fact.

The common doctrine regarding the cause of this affection is that it is due to a phlebitis. This is probably correct, but I am not so certain of this as at one time before. There are so many cases without phlebitis that I am inclined to think phlebitis is secondary. Nearly always there is a thrombus first. Both are due to infected blood, it containing toxins or the bacillus itself. There are few opportunities for pathological investigation, but in what have been examined the typhoid bacillus has been found. There is then infection of the blood followed by thrombosis, and there may or may not be phlebitis in connection. The prognosis is favorable, my experience in a large number of cases including only two cases. The main difficulty is the slowness with which recovery is attained, it being a long time before the leg can be used, and perhaps years before complete recovery is reached.

The treatment consists in elevation to insure free circulation and in keeping the secretions of the body acting freely. The heart may be strengthened by the use of alcohol, or tincture of strophanthus, five drops every fourth hour. For the pain, nothing does better than hot lead-water and laudanum, or in some instances this used cold is more grateful. When the swelling subsides, put on a bandage, and the patient should not be allowed to get up without wear ing a support. Lastly, beware of manipulating or rubbing the leg, as this may detach an embolus.—A. G. Ellis, M. D., Medical Times, April, 1900.

THE DIAGNOSIS OF CARCINOMA OF THE INTESTINES.

Carcinoma of the duodenum is to be differentiated from carcinoma and ulcer of the stomach, from duodenal ulcer, from gall stones, and from new growths or enlarged glands compressing the duodenum from without. From the two forms of ulceration named, it differs in the progressiveness of character, the shorter period of duration, the development of cachexia, the greater wasting, the presence of a tumor, a diminution in hydrochloric acid of the gastric juice, or perhaps its absence, and the smaller frequency of haematemesis (the blood presenting the characteristic coffee-grounds appearance). The differentiation from malignant disease of the stomach will have to be based upon the situation of the palpable tumor and its degree of mobility, the frequency and the time of vomiting, and the situation and the time of occurrence of the pain. Gall-stones may occasion symptoms closely resembling those of malignant disease of the duodenum, but they are unattended with cachexia, they differ in course and duration and the tumor to which they give rise differs in its general physical characteristics from that due to malignant disease of the duodenum. The differentiation from new growths or enlarged glands compressing the duodenum from without depend largely upon the recognition of the conditions to which such processes are usually secondary. Such growths and glands are unattended with the pain, digestive derangement and vomiting so common with malignant diseases of the duodenum.

Malignant disease of the large intestine is to be distinguished from fecal accumulation, peritonitic adhesions, and the presence of foreign bodies in the intestine. All these are unattended with cachexia and wasting. In cases of fecal accumulation there is a history of long-standing constipation, with the correction of which any tumor that was present disappears. When peritonitic adhesions are present inquiry may elicit the previous existence of peritonitis. Among foreign bodies occasionally found in the bowels are gall stones, enteroliths, and possibly detached pedunculated polypoid growths.

An inquiry into the history and the progress of the case will soon remove any doubt that may have existed.

Sarcoma of the bowel, likewise, is, in the majority of cases, primary, and it commonly gives rise to metastasis. It extends by contiguity and may thus give rise to the dilatation and rigidity of the wall of the bowel. It also appears at an earlier period in life than malignant disease elsewhere. Constitutional symptoms are likely to develop before local manifestations. The temperature often is elevated. There may be constipation alternating with diarrhoea.—Sajou's Annual, Vol. IV., pp. 158 and 159.

A NEW METHOD OF STERILIZING CATGUT.

Dr. C. A. Elsberg submitted to the New York Academy of Medicine a preliminary report on a New Method of Sterilizing Catgut (Medl. Record, April 21, 1900.)

"He said that there was much difference of opinion regarding the relative value of the non-absorbable ligatures and the absorbable ones. The use of catgut had been considerably curtailed by the difficulty of uniformly securing complete sterilization without interfering with certain properties of the catgut. Sterilization by dry heat had been recommended, but time, care, and special apparatus were required. Most of the fluids that had been used for this purpose were inflammable, or their vapors were, so that they must be boiled in special apparatus. Formaline catgut was often excellent, but under the same conditions of preparation it was sometimes soft and strong, and at other times hard and fragile. This catgut was absorbed somewhat more slowly than that which was prepared by other methods. Prolonged immersion in dilute solutions of antiseptics required time, and the catgut so prepared was not always reliable. Sterilization by dry heat was impracticable. The requisites for good catgut were sterility, strength, softness, and pliability. In the method about to be described he had made use of a very well-known chemical principle, i.e., that animal substances were insoluble in solutions of those drugs by which they were themselves precipitated. Thus ammonium sulphate was precipitated by albumen, and therefore albumen was insoluble in solutions of ammonium sulphate. This substance was made use of in this connection, and certain hitherto unknown properties of this substance had been discovered and applied in the new method of sterilization about to be described.

"Technique.—The fat should be removed from the catgut by immersion for forty-eight hours in a mixture of one part of chloroform and two parts of ether. The catgut should be wound tightly in a single layer on spools. The chloroform and ether mixture was then allowed to evaporate. The spools were next boiled from ten to thirty minutes in a hot saturated solution of ammonium sulphate in water. This solution was made by adding chemically pure ammonium sulphate to boiling water until saturated or almost saturated. This salt was a neutral salt which became acid on boiling. It boiled at 220°-226° F. When the spools were removed from the boiling solution, some of the salt crystallized out upon them, but this was removed by a momentary immersion in a cold or warm sterile water. It might then be preserved dry, or in alcohol. Careful experiments showed that the catgut was as strong as before treatment, and sometimes stronger. It was readily absorbed in the tissues in from four to eight days. Bacteriological experiments showed that the catgut was always sterile after boiling in the ammonium-sulphate solution for five minntes. The catgut could be chromicised by boiling it in a chromic-acid solution of the desired strength. It was probable that catgut could be made more or less absorbable at will, depending upon the strength of the chromic-acid solution. His experiments on this point were not yet completed. Ordinarily the catgut should be boiled for twenty or thirty minutes in a saturated solution of ammonium-sulphate in a 1:1000 chromic-acid solution. The ammonium-sulphate sulution could be used over and over again. As this salt costs only fifteen to twenty-five cents per pound, the method could not be said to be expensive; moreover, the solution was non-inflammable, and the method was so simple that no skill or elaborate apparatus was necessary. As a rule, the catgut should be boiled in the saturated aqueous solution of ammonium sulphate for from ten to twenty minutes. A method founded on the same principle, though somewhat modified, could be applied to the sterilization of sponges or other material of a similar nature.

A PHYSICIAN PUNISHED FOR INCAPACITATING RECRUITS.

Dr. Adolph Ziel, of Elberfeld, Germany, has just been sentenced to a year's imprisonment for having assisted conscripts in avoiding military service. His plan was to give some cardiac poison just before the conscript was to be examined, so that the heart would be found irregular in its action. He had cheated the government out of some three hundred soldiers before he was apprehended. Several military surgeons were also sentenced to short terms of imprisonment for complicity in his scheme.—The Medical Record for April 7, 1900.

According to the Medical News, Mrs. Mary Baker G. Eddy, leader and founder of "Christian Science" Church, is very ill at her home in Concord, N. H., with a cancerous affection.—The Journal of the American Medical Association.

In the thirty-one years preceding 1895 the mortality from cancer has almost exactly doubled in England and Wales, according to the report of the Register General.

Chicago's "Christian Scientists" are objecting to the teaching of physiology in the schools. They protested to the Chicago Board of Education, at its meeting, April 9, against it, against medical inspection of schools, and against the rules requiring vaccination. The reply of the Board was to the effect that the children of "Christian Scientists" would be governed by the same rules as were the children of the plain, common people.—The Journal of the American Medical Association.

Secretary Gage has asked the house of representatives to appropriate $200,000 additional to the fund to prevent the introduction and spread of epidemic diseases. The surgeon-general of the Marine Hospital service reports that on account of the continued and increasing danger from plague, medical officers have also been stationed at the fruit ports of Central and South America to guard against yellow fever. The consulates at Yokahoma, Kobe and Hong Kong also have medical officers. Three hundred thousand dollars was previously appropriated and this sum is almost entirely exhausted.—The Scientific American.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, JUNE, 1900. No. 6.

Original Articles.

NOTES FROM A LECTURE ON PARESIS BEFORE THE SENIOR MEDICAL CLASS OF HAMLINE UNIVERSITY.

By Dr. C. K. Bartlett, Professor of Psychological Medicine.

We come now to consider a mental disease with marked and peculiar features, with definite symptoms, and a definite pathology. It is progressive in its nature, rapid in its course, and, with few, if any, exceptions, fatal in its results. The disease is insidious in its beginning, sometimes not recognized, even by intimate friends, until it is too late to remedy by any treatment; but if there is any cure for cases of this kind, it must be secured in the onset of the disease, and before the deterioration of the brain has commenced; after the symptoms are so pronounced as to require the restraint of the patient, or his commitment to the hospital, the period of cure has passed, and he can then only be made comfortable as possible for the remaining months of his life. It is a great surprise and shock to the friends of a young and apparently vigorous man, who may still be active and prominent in business affairs, to be told that he is paretic; that he will probably never do any more business, that he will rapidly lose self-control, and become violent at any time; that he is not then in condition mentally to make contracts, his judgment and memory being impaired, and that he will not live more than two years. But such opinions have been given often, in the past, and will be true and necessary frequently in the future. You will not be consulted in any case requiring more care and acumen to diagnose the real nature of the difficulty than in these cases of incipient paresis; and in none that will be liable to give you more anxiety to treat, if the patient is so fortunate as to consult you before the disease has progressed beyond any help from medical aid.

A very complete definition of the symptoms of the disease is given by Dr. T. S. Clouston as follows: "A disease of the cortical part of the brain, characterized by progression, by the combined presence of mental and motor symptoms, the former always including mental enfeeblement and mental facility, and often delusions of grandeur and ideas of morbid expansion or self-satisfaction; the motor deficiencies always including a peculiar defective articulation of words and always passing through the stages of fibrillar convulsion, incoördination, paresis, and paralysis; the diseased process spreading to the whole of the nerve tissues in the body; being as yet incurable, and fatal in a few years."

For convenience the disease may be divided into three stages, between which there is no very distinct line of demarkation.

FIRST STAGE.

Your attention may be called to a man in the early part of middle life, one who has more than the average of mental and physical power, who has great capacity for work and business, and who at times has pursued his labors with great energy and for prolonged periods; one who may have been subjected to much anxiety and trials, such as the occasional financial disturbances of the country bring to business men; and who has been accustomed to live high—as we say—that is, eating heartily of rich food, and who may have also indulged in stimulants to some extent, though not to what we ordinarily mean by excess; and who may have indulged in other pleasures bordering on dissipation; I say such a case may be presented to you on account of some strange and unusual and unaccountable changes in his daily life, his actions and feelings. For instance it may have been noticed for a few weeks he has not been "the same as usual;" he may have appeared a "little depressed," or not in quite as good spirits as formerly; he may have complained of some shooting pains in his head; he has not been as prompt as usual in his business relations; has forgotten appointments perhaps; may have neglected his work, or appeared indifferent about it; may have done some unaccountable things, and noticed them himself; at home he has not been as pleasant or agreeable as his wont in the past, but has been irritable and impatient, appearing annoyed at trifles which did not previously disturb him, although, as yet, able to restrain himself before visitors and strangers in the family; and it will be fortunate for the patient if you are consulted during this very early stage of the disease, recognize the dangers, and can persuade him to promptly and rigidly follow your sugestions and treatment, without alarming him as to his real condition, or what you may fear it is. If you treat a patient with these symptoms and he recovers, becomes strong again and able to do business as before, you may not declare that you have saved him from becoming a paretic, that of course is impossible to know; but you may have the satisfaction of feeling that you have contributed to the averting of such a result, and with such comfort the physician must frequently rest content.

SECOND STAGE.

This is only a continuance of the first condition with additional symptoms and more well marked mental unsoundness. The patient will exhibit and express a greater self-satisfaction, will talk more about his business and prospects, exaggerating the amount of the expected profits; he will make reckless bargains, buy extravagant presents for his friends, and even bestow them on casual acquaintances, and persons to whom he is under no obligations either as to friendship or for favors; he will make careless contracts, and not make any effort to fulfill them; in his movements there will be noticed an unnatural quickness, a sort of jerking motion, and his speech will be hurried, and a slurring of some words and syllables will be conspicuous: there will be seen fibrillar twitchings of the small muscles about the face, and especially about the lips while talking, and a slight stammering which always increases as the disease progresses; his tongue will vibrate on the surface with an irregular contraction of the muscular fibres, and the pupils of the eyes will not contract and dilate equally, although this is not a constant symptom. There will be great restlessness with some rise of temperature and rather hot skin; the pulse frequently full and hard; the sensations will be diminished, and the senses weakened to some extent, and later on they will appear entirely absent; when asked as to his feelings, he will express himself as perfectly well, in fact, "never felt better; never was before so strong and healthy, and able to do business continuously without rest or sleep." He is always in a hurry, talking rapidly, but is easily diverted from one subject to another; with strangers he will be polite in manner and yielding in disposition generally; but with his friends and relatives irritable if opposed or contradicted, and liable to become excited suddenly and violent from slight cause. In this stage of the disease he fears nothing, and will resist force just the same with half a dozen opponents as if there was only one, not having any judgment under the circumstances. He will be full of wild schemes, usually for making money, while at the same time claiming great wealth, owning everything in sight, all the gold and ships and banks in the world. He will assume to be a king and announce plans to marry some one suitable to his rank and dignity; he will dress with odd and fantastic colors to attract attention, and to maintain, as he thinks, his assumptions of superiority. As the disease progresses the patellar tendon reflex may be increased, but the powers of locomotion will become affected and his gait irregular, and uncertain; if told to walk straight ahead, he may do very well; but if asked to turn around he cannot do so suddenly, but will swing around in a circle, in a bewildered manner; his head will appear too heavy, or as though he was trying to carry a weight on it, and he will stagger; if asked to stand on one foot and shut his eyes it will be impossible for him to keep his balance even for a very short time. From this point in his condition he will gradually grow worse, losing flesh, his stammering will increase, and he will have difficulty in speaking long words; his restlessness will increase, and he will become noisy, and especially at night, and filthy in his habits; his motor excitement frequently leading him to acts of destruction of clothing and articles of furniture. In some cases occasionally this excitement may abate, and after a period of longer or shorter duration of comparative quiet, he will begin to gain flesh, and his condition may appear improved to those not familiar with the course of the mental symptoms in such cases; but he is really approaching the last and

THIRD STAGE.

In this stage the previous symptoms become more pronounced, and in addition others become conspicuous; the intellect fails, and the motor-paralysis increases; muscular feebleness is more apparent, and the patient will be inclined to lie in bed, and especially in the morning; in the afternoon he may be up and restless, walking about continually; while in bed if not sleeping, he will roll about, gather up the bed-clothing, and uncover himself, exposing his person without the slightest thought of indecency. At this time there may be some trouble with deglutition; the patient will fill his mouth with food and roll it about without swallowing, and there will be some danger of choking; the sense of taste is partially or perhaps almost wholly lost, and any kind of food is greedily taken. Earily in the disease the patient is liable to convulsive attacks, sometimes called "congestive" resembling epileptic fits, but of longer duration, and they usually increase in number and severity as the disease progresses; the patient is always worse for a while after an attack, although he may appear somewhat better as epileptics seem to be relieved by a fit; but every convulsive attack increases the dementia, and detracts something from the vitality. I have seen a convulsion continue for four hours, and the patient appear in a dying condition, as from a stroke of apoplexy, and then revive and live for some months; there was probably, in such a case, a real apoplexy; either by the effusion of blood or serum, producing a pressure that gave rise to the convulsion, as apoplexy does occur occasionally in the terminal stages; and if the patient is not thus carried off suddenly, or by accident, he fails gradually, and dies of exhaustion, or a paralysis of the muscles of respiration.

A CASE.

A case came under my care soon after the financial difficulties of the year 1867. The patient was head manager of a large business firm in Philadelphia, and on him devolved most of the work and anxiety in sustaining the credit and meeting the obligations of the house. For weeks and months there was no mental rest for him, and he was successful in saving the firm from disaster, but came out a paretic, a complete wreck himself. He was a man above the average height, of fine manly bearing, and of great mental capacity, well educated and of amiable disposition, and in this respect, although impatient and irritable at times, he remained to the last usually pleasant in his manners. I have not the history of his case and relate only from memory; but some features of his condition are distinctly recalled, and it is now more than thirty years since the facts occurred. One occupation of which he never seemed to tire was reading the advertisements in the papers of goods for sale, and writing orders for the same, always giving directions to buy, and never giving any thought or making any provision to sell anything; if allowed he would write forty such letters in a day, ordering the purchase of goods, without regard to cost, and as the disease progressed, he became too impatient to write letters, and would hurriedly dictate telegrams,which,growing shorter and more peremptory every day, finally culminated in one general direction saying, "buy all creation." As near as I can now remember he lived about eighten months after the first symptoms appeared. There was no autopsy. This was a typical case in many respects; and all cases do not have the same causes, or run so definite a course; but may begin and end without delusions, and without excitements, and without congestive attacks; but there will be a gradual enfeeblement of mental and muscular power, with fibrillar tremblings in the tongue, and ending in complete incoördination.

REMISSIONS.

During the second stage of the disease instances of a remission are not uncommon when improvement will excite the expectation of recovery, and recoveries have been reported at such periods; the patient may be able to resume business, and to take his place in society to a certain extent; the motor paresis may remit, and the intellect appear better; but there will not be a complete restoration of either; there will remain a peculiar gait, and a feebleness of mind showing itself in manners and thoughts contrary to his former character. Such cases relapse sooner or later, if not caried off by some other disease. Speaking of such remissions, Spitzka says, "there is no more remarkable and deceptive observation in neuropathology than the abatement of a dementia with delusions of grandeur, which permits the patient to return to his vocation and the simultaneous disappearance of a paralysis and ataxia incoördination which may have been complicated by episodes of an almost fatal character. Although residua of the symptoms may mark the period of remission, yet there are exceptional cases where even the expert may be unable to detect any deviation from the standard of mental and physical health. [I suppose he means here an expert who has had no previous acquaintance with the patient.] In the vast majority of cases, however, tremor of the hands, inequality of the pupils—if it previously existed—and a slight speech defect and clumsy walk are found more or less prominent even in the remissions. An anomaly of the moral or mental character, or of both, is also quite common. The patient is given to purposeless lying, is irritable and extravagant; to the expert the continuing dementia is but imperfectly masked by the superficial sign of recovery; while to the laity the ocurence of an assault, the expenditure of a fortune, or an apoplectiform attack, may prove tragical or costly comments on their ready credulity."

One case of remission I will relate. A young lawyer who had been a soldier in our civil war, having enlisted while a mere youth, was commited to the hospital for insane on account of some mental disturbance that had attracted the attention of his friends. He had worked hard in his profession, being quite ambitious and was succeeding. Whether his army life had been an injury to him aside from the usual hardships endured, I do not know. For a while he grew worse, was violent, noisy and filthy, so much so that he appeared to be approaching the last stage of the disease; but at this point he began to improve; became quiet, intelligent and agreeable in conversation; the improvement was so marked that his friends took him from the hospital, and soon afterward to Washington, where he was appointed to some office and attended to his duties for some time; how long I do not know; but he finally had a relapse and died.

STATISTICS.

According to Spitzka whose examinations were confined mostly to the hospitals of New York City the percentages among different nationalities, as to frequency, were as follows:—

Anglo-Saxon	13-29 in 100
Celts	11-58 in 100
German	11-13 in 100
Hebrews	10-29 in 100
Negroes	8-82 in 100

These observations, of course, were too limited as to time and location to be of much value as authority; but I presume they very fairly represent the proportions of cases as usually found in our large cities. It would appear reasonable to suppose that a disease depending upon hard work, mental anxiety, and long continued and close application to business would be most developed among that class of people most exposed to the sharp competitions of business life, and its attending excitements. The disease is much less common among women than men.

MORBID ANATOMY.

The morbid changes found in these cases are mostly those dying in the last stages of the disease, and the brain and spinal cord show a long continued degenerative process, caused by what some authorities regard as inflammation, and reasonably so, judging by the effect of inflammation in other organs of the body; and from what we know of the causes, there is very probable, first an irritation, increased by a repetition of the substance or excitement concerned in its production, which in time becomes chronic in its character, and then the proper nourishment of the brain is reduced, and it becomes wasted as a muscle is wasted when not supplied with sufficient blood; whatever the causes may be we know that the brain is shrunken and wasted, not as a whole, but frequently more marked in some portions; the convolutions, according to Spitzka, (who has written on this subject as fully as any modern author, and with as clear a knowledge of the disease as any one) near the base of the brain may be full, and show the normal contour, while those of the paracentral lobule, or of the infraparietal lobule, or of the entire convexity of the frontal lobe may be atrophied. He adds: "The characteristic feature of the structural cortical changes in paretic dementia is the fact that they are rarely general, but that they affect certain cortical provinces more than others, and leave some of them nearly or entirely intact." There may be spots of softening, but on the whole the cortex is harder than natural; the white substance adjacent to the cortex may be firmer than the cortex itself. The pia mater is usually more adherent to the cerebral surface than in health, and the cortex may be removed with the membrane when a separation is attempted. The condition of the membrane would indicate that at some time there had existed a state of inflammation which had caused the attachment of it to the brain substance. All the membranes show abnormal changes; the dura mater is thickned, adheres more or less morbidly, and frequently leaves shreds attached to the bone: under the dura mater has been found a morbid substance of a peculiar kind, which has been commonly called a "false membrane;" it is found to consist of a newly organized fibrous tissue, in a gelatinous matrix with much granular matter, white and red blood-corpuscles, and newly formed and forming capillaries with tender walls—according to the microscopical reports of Dr. Clouston. The arachnoid is thickened, and under it there is a dirty opaque fluid which is compensatory, filling up the space left vacant by the atrophy of the convolution and brain generally. Dr. Clouston contends that the disease is not inflammatory in origin, because the pia mater rarely adheres to the convolutions in their spaces, or the convolutions do not adhere to each other. He continues as follows in his descriptions: "A microscopic examination of sections of the convolutions shows enormous proliferation of the neuclei of the neuroglia, which takes place most along the small vessels and capillaries. The outermost layer of the convolutions is thinned, altered in appearance and structure, and in the advanced cases converted into a dense unorganized-looking texture, instead of the beautiful and regular layer of small cells and fine granules of a healthy convolution. The larger cells further in, and the large multipolar cells (cells having more than two processes), are more or less degenerated or atrophied, especialy in patches and areas. The blood vessels are diseased, their coats being thickened and full of nuclei. Sometimes they are obliterated and thready. The perivascular canals are morbidly enlarged, sacculated, and filled with all kinds of organic debris, blood coloring matter, granules, and minute apoplexies. There can be no doubt that those canals and the spaces in the pia mater act as lymphatic ducts. Having been obstructed during life, little effete material could have been carried along them—there is no nervous tissue that is not found diseased and degenerated in advanced cases of the disease, the retina, the peripheral nerves, the sympathetic ganglia, etc."

What, then, is general paralysis? Dr. Clouston asks this question and gives the following explanation, which is as clear as our present knowledge of the disease affords: "There are few diseases whose essential nature we as yet know. But we know that the special throphic energy and inherent physiological qualities of different tissues become perverted in special ways, so that most tissues have their own special types of disease. There can be no doubt that the gray substance of the convolutions of the brain of man is the highest in quality and function of any organic product yet known in nature. That substance reaches its highest devèlopment in the male sex between adolescence and middle life. Its uses are called forth in the highest degree in the races who live in towns. Its physiological abuses by alcoholic and other poisoning, by overstrain, by violent energizing, stimulated by continuous strong mental and other stimuli up to the point of exhaustion, are also most common under these circumstances. Its outer layer or rind is most delicately constituted, and has far more blood and more minute cells than any other portion of the brain, and, on the whole, may be regarded as the most important factor in mentalization, being in fact the mind tissue. Immediately underlying it in the convolutions, in certain parts of the brain, we probably have originating motor cells. This outer rind of gray matter, this last evolved and highest organic substance, is precisely that affected in general paralysis. The proof goes to show that this is first affected in the typical cases, and that all the other nervous degenerations which finally affect the whole nervous system are subsequent and subsequential. Granted a progressive and incurable disease of this mind tissue, toward which the whole of the rest of the nervous system tends and in which it ends, which controls and regulates it all, and which is its crown and highest development, it is quite explicable that all the rest of the nervous system should degenerate in structure and function, and in fact die slowly and progressively. It is a quality of nerve tissue to degenerate in the lines of physiological activity, when that activity ceases, either in the higher center or in the part innervated. General paralysis is a disease of this outer layer of the cerebral convolutions of the mind tissue in fact. It is essentially a death of that tissue. I look upon it as being equivalent to a premature and sudden senile condition, senility being the slow physiological process of ending, general paralysis the quick pathological one."

TREATMENT.

Although we may feel that these cases are incurable after the diagnosis is clear, it is nevertheless our duty to treat them as though the result might be otherwise; never despair in any case—there may be a favorable turn and some years of comfort may remain to our afflicted patient. In the case of suspected paresis the treatment, or what might be more properly termed management, will be quite different from that of a case that has passed beyond the first stage, and in which the disease is unmistakably progressing. If we are consulted in a case at a very early date, and have good grounds to fear what is in prospect for our patient if the disturbance is not arrested, our measures for treatment must be prompt and decided, and a rigid compliance insisted upon if any benefit is to be expected. If the patient is engaged in an exacting and exciting business, he should be advised to leave it at once, temporarily at least, going so far away as to make it impossible for him to be disturbed, and all comunications liable to harass and annoy him should be prevented from coming to his notice; but he should not be wholly unoccupied; the mental activities should be wholly changed if possible, and diverted into new channels of a less exciting nature; new scenes, new faces, and new objects should be introduced to his attention; and for this purpose a journey with agreeable companions is the very best suggestion frequently that we can make for such a case of suspected incipient paresis. He will not need much medicine; perhaps a tonic to aid digestion, and some quieting medicine if sufficient sleep is not regularly obtained. If he has been accustomed to one kind of exercise, a change for some other that will bring into action an entirely new set of muscles will prove beneficial; if he has been in the habit of eating much rich food, and aiding its digestion by stimulants, change that for more easily digested articles but not less nourishing, and moderate the quantity of stimulants, or wholly prohibit them as soon as possible; if he has been closely confined to office or indoor work, give him abundant fresh air and sunshine outdoors. Having so treated a patient and he recovers, the result will be just as satisfactory as though you knew that you saved him from an attack of general paralysis.

A patient having passed from the premonitory symptoms to the stage of undoubted paresis, he will require a different mode of treatment from that of the condition just described. While the medical treatment and the management of the diet may remain as before, he will not be in a suitable condition to travel, or to remain at liberty; his inclinations will have to be controlled and he will be liable to sudden and unreasonable excitements. By tact he can be managed, usually, and outbreaks of violence avoided, as he is easily diverted from any desire, however earnest he may seem to be for a time, and he soon forgets the subject and turns his attention to other matters of absorbing interest. But he is blindly furious if opposed, at times, and treacherous and dangerous; he has no regard for consequences, and will set fire to the house, and secrete a weapon of any kind to attack an object of a delusion. In this condition he will require restraint and careful watching. A hospital is the most proper place for him unless protected by competent nurses and supported by abundant private means.

These cases will be more liable to fall under your care during the last stage than during the second, unless you should be connected with a hospital for the insane, as the patients, having passed through the periods of excitement and violence, and become quiet and feeble, the friends may prefer to care for them at home. The treatment for them in this condition will chiefly consist of good nursing, and in attempts to make them as comfortable as posisble, and prolong their lives, however undesirable, in some instances, the latter object may appear. In this stage of the disease there may occur periods of restlessness and sleeplessness requiring some anodyne; and for this purpose chloral, and morphine if necessary, may be given. In the advanced state of paralysis and prostration there will be danger of bed-sores, on account of the liability of feebleness of circulation and the position which the patient will take in bed, lying in the same place and being wet by unretained urine; to prevent this the patient should be kept up during the day as long as possible, washed and kept as dry as the circumstances will permit; washing with alcohol, or a strong solution of sulphate of zinc will help prevent the skin from breaking. Good nourishing food must be supplied to keep up the strength, and stimulants may be allowed with benefit; gentle massage may be given, which will assist the circulation and have a tendency also to prevent bed-sores. As a tonic some preparation of iron is often serviceable and the pyrophosphate combined with cinchona and strychnine will be found as good as any; it will often seem to infuse new vigor into the failing limbs of the paralytic.

Dr. Arthur W. Hurd, Supt. of the hospital for insane at Buffalo, New York, read a paper before the Medico-Psychological Society of America last May, in which he points out some interesting and valuable suggestions as to the differential symptoms between paresis and pseudoparetic states. The depressive and demented type of paresis most closely resembles the mental state resulting from chronic alcoholism. The history of the patient and his habits will help the diagnosis. If the paresis is the result of excessive drinking, time will elucidate. Motor symptoms of paresis are more localized than in chronic alcoholism—tremor more generally distributed in the latter. Alcoholics complain more of pain, headache, and have hallucinations with delusions of fear, persecution, infidelity of wife and friends, with apparent active mental suffering.

Acute mania as contrasted with the acute maniacal excitement of paresis: There may be in both extravagant delusions, restlessness, tremor of speech, and twitchings of the muscles of the face and tongue. There are some cases of acute mania in fact in which these may be extremely well marked, and with a history of irregular living and changes of disposition, may for a time make a positive diagnosis between the two diseases impossible; but in acute mania, as a rule, there are less mental confusion and less twitching of the face and ataxia of speech than in paresis. Cases of acute mania do not generally show that constant progressive state, but vary sooner towards recovery or death.

Dr. Mickle has called attention to the difference of the mode of onset between paresis and specific brain disease from syphilis, viz: marked motor disorders often precede the mental symptoms in syphilis, while the reverse is usually the case in paresis. One strong point of differentiation is the prolongation of the disease in syphilis beyond the average duration of true paresis; also in the different results of specific treatment.

Dr. Musso, of Bologna, in 1887, reported some cases slowly poisoned by the inhalation of carbonic oxides by cooks, which resembled general paralysis; they had mental dullness and occasional paroxysms of excitement, presenting a picture strikingly like certain cases of paresis; the course of the disease, however, differed.

*EXAMINATION OF THE RECTUM AND THE SYGMOID COLON.

(Abstract)

By W. A. Abbott, M.D., Minneapolis.

The purpose of this paper was to describe a method whereby not only the rectum but four to six inches of the sigmoid colon is freely exposed to inspection for all diagnostic purposes and made a satisfactory field for inspection and operation in suitable cases. The rectum or anal canal is that part of the bowel beginning at the anus and extending to the third sacral vertebra. It is nearly straight, immovable posteriorly and but slightly extensible and having a pretty constant length of about six inches. The sigmoid colon extends from the upper limit of the rectum to a point opposite the crest of the ilium, having a length of from twelve to twenty-two inches, having at least two marked curvatures and being extremely mobile and distinctly extensible, and the total length from the anus to the lower end of the descending colon may vary from eighteen to twenty-eight inches.

In examining the sigmoid it is essential to remember the downward curve just above the recto-sigmoidal junction and the return curve as the sigmoid passes upward to the colon, and that these curves and others in certain subjects, as well as the great mobility of the sigmoid, are due to the long meso-sigmoid. Whether the loops fall to the right or the left and what particular shapes they assume, make no essential difference and need not be considered, as will be seen later. It is essential that we realize that we cannot pass with a straight instrument much beyond the lower curve. This is explained, not only by the difficulty of passing a straight instrument around a curve, but also because the long meso-sigmoid and the extensibility of the bowel, allow us to push the point of the instrument into close proximity of the lower border of the ninth costal cartilage without passing more than six inches into the sigmoid, and there is no way in which we can draw more of the bowel over the end of the instrument. The distance in a direct line from the anus to the costal cartilage opposite the end of the ninth rib averages about twelve inches or a little less in adults. I was surprised to find the measurement very constant in males as well as females, and in tall as well as short persons. Relative to their height the distance will average a little greater in the female than in the male. In a child of six years, the distance is about eight inches; in a child of ten years, about nine inches. This fact should always be borne in mind in examining the bowel in children.

Dr. Abott's method is as follows; The patient

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*Paper read before the Gynecological Society at Chicago, April 18, 1900.

is placed on a table in the left lateral position, the hips being elevated about six inches on a sand bag. If a table can be utilized that will lower the head and elevate the buttocks as much more, it will be an advantage. The knee-chest position is also very satisfactory. A good electric forehead lamp with darkened room make the best conditions. An ordinary short Sims speculum introduced on the coccygeal side will now display the inner surface of the rectum, so that the so-called valves can be seen with perfect distinctness. A straight retractor eight to twelve inches long is now passed on the pubic side and just after the point has passed the valves and under the guidance of the eye, the point is carried slightly to the patient's right, and then to the left and forward, when ordinarily the instrument will glide easily to its full length and the whole lumen of the bowel is brought in view. Any force used in pushing forward the instrument in the bowel is not only unnecessary but dangerous. The instrument can be shifted, so that any part of the surface can be seen. Dilation of the sphincter ani, of course aids materially in the admission of the light, besides giving more room for manipulation. In the male the introduction of a long instrument is not quite so easy and the distension and consequently the view of the bowel not quite as satisfactory. The great advantage will at once be apparent that one does not see simply a small area of the bowel wall at the bottom of a long cylinder, but that a comprehensive view of its whole length and lateral surfaces are obtained, normal and abnormal tissues being at one glance made subject to comparison. That this is not an overdrawn description will at once be apparent when I state that I have repeatedly on the cadaver male as well as female introduced a suture with a common curved needle and tied it eight inches from the anus. This was done with an extra long needle-holder and the knots tightened with long uterine dressing forceps. This could not have been done unless the part was in full view and room enough provided for manipulation.

I wish here to call your attention to the danger of attempting a suture from any portion of the inner surface of the sigmoid. Although this can be done with ease eight inches from the anus, it is difficult to avoid carrying the needle through the bowel wall. It has happened to me twice, upon the cadaver, to sew two loops of bowel together, although I used the greatest of care. The procedure is safe in the rectum.

One great advantage of this method is that we do not have to grope our way blindly by the sense of touch alone, but the instruments are introduced under the guidance of the eye. If an obstruction is met, it is seen and the point directed by it. If there be a stricture or malignant disease, the field can be inspected and the amount of diminution of calibre can be made out as one proceeds, without any danger of undue force. These instruments are more easily introduced than cylindrical specula, because there is no obturator, the air preceding the point balloons the bowel in advance.

It is often of advantage to introduce two of the long retractors instead of a short and long one.

It is needless to dwell upon the advantage of being able to examine ten inches of the lower bowel with almost the same facility that one inspects the vagina with a Sims speculum.

RESECTION OF THE HIP.

New York Academy of Medicine, Section of Orthopædic Surgery. Meeting of April 20, 1900.

Dr B. F. Curtis presented a boy eighteen years old, whose right hip had been resected for tuberculous arthritis of seven years' duration. The hip was fixed in dorsal dislocation with the typical deformity of adduction, flexion and inward rotation, and three sinuses existed on the posterior, anterior and internal surfaces. There was slight flexion and extension, rotation was diminished, abduction possible to ten degrees. Operation by posterior incision, Sept. 26, 1896. Resection of head and three inches of femur. The pelvis was found healthy. The sinuses were curretted, the wound partly sutured, partly packed, and a good recovery followed. A Buck extension apparatus was applied and the limb kept in slight abduction. Nov. 16, a hip splint was applied and the patient allowed up. The sinuses had healed by Nov. 23, and Dec. 11, 1896, he was discharged. There was four inches of shortening, the limb was in good position, the upper end of the fragment being strongly united with the pelvis at the level of the acetabulum, with no slipping. A limited amount of flexion and extension was possible, but no rotation. There was no sign of recurrence, the patient was well and walked with a cane. He wore the splint for a few months after leaving the hospital.

OSTEOTOMY FOR DEFORMITY FOLLOWING HIP DISEASE.

Dr. Curtis also presented a boy 17 years old who recovered from hip disease with the hip flexed to 10 degrees, about 10 degress of flexion and extension allowed about that point. No rotation. On Dec. 23, 1897, there was no sign of active disease and an incision was made through the soft parts in front, below and parallel to Poupart's ligament, dividing everything down to the joint including its capsule and excluding only the vessels and nerves. This allowed extension to 45 degrees, the tension of the vessels not warranting more. The femur was then partly divided by the osteotome and partly broken above the lesser trochanter, its posterior layer being left. Full extension was then possible. The large wound was covered by a flap from the abdomen and a Buck's extension was applied. Hemorrhage the following night was controlled by packing and extension was removed. Infection followed with complete fracture and over-riding of the fragment and partial sloughing of the flap. The second day extension was re-applied and the bone set. On Jan. 20, 1898, the wound was clean and grafting was done over the large granulating area. By the end of February the wound was healed, with shortening of 2 inches. On Mar. 19 a hip splint was applied. The boy was walking without a brace. There was practically no motion in the joint. Bony union was firm. The deep depression at the site of the wound caused no inconvenience. The brace was occasionally re-applied for a few days for some pain in the hip.

Dr. A. B. Judson said that operating in hip disease was less likely to be followed by a bad result in an adult than in a child.

Dr. G. R. Elliott said that the relation of these cases emphasized the importance of preventing the need of such operations, which should never be required. The indicated gross negligence in the treatment of the disease giving rise to the deformity. Patients with hip disease drift through general hospitals and come out with badly displaced limbs from the absence of adequate treatment. In an institution which he attended surgically there were a dozen cases of old hip disease with limbs at all sorts of angles, showing that no care had been taken in hospital and private treatment to keep them in proper position while the bone was breaking down and undergoing repair. The prevention of these deformities was not difficult.

Dr. W. R. Townsend recalled a similar case of osteotomy. After dividing the soft parts by an open incision including the capsule it was found impossible to get the limb down. The capsule was allowed to heal before osteotomy was done which he thought was better than to complete the reduction at one sitting.

TREATMENT OF TORTICOLLIS.

Dr. Townsend presented a girl 12 years old who had been relieved of torticollis, the result of suppurative cervical adenitis at the age of 5, which had produced cicatricial adhesion to the left sterno-cleido-mastoid muscle. The head had been pulled over toward the left shoulder and the deformity had been increasing for 4 or 5 years. On Feb. 1, 1900, an open incision 1½ inches long, about 2 inches above the clavicle over the belly of the muscle, and free section of all the resisting structures, had relieved the deformity. The head had been held in the opposite position by plaster bandages. There had been no pain, the temperature had never been above 99 degrees and the wound healed by primary union. The result was satisfactory. The head was in good position with motion. A little gap was felt below the scar but the muscle had probably united. Subcutaneous tenotomy would have been impossible as it had been necessary to carry the incision to a point where no one would have dared to go. In general he preferred the open incision for division of this muscle.

Dr. R. A. Hibbs commended the open incision. In a recent operation on a girl 5 years old after section of the sternal portion of the muscle the deformity was only relieved by division of the clavicular portion through another skin opening.

Dr. R. Whitman practised the open incision in torticollis. Complete division of all contractions, correction of the secondary distortion by vigorous manipulation, fixation for a time in the over-corrected position by a plaster bandage and after treatment by proper exercises would secure good results without the subsequent use of apparatus.

SPONDYLITIS DEFORMANS.

Dr. Whitman presented a man 46 years old with a spine anchylosed excepting the occipito-axoid joints. Fourteen years before, a long and severe attack of inflammatory rheumatism had affected nearly every joint excepting those of the back. This and several milder attacks in the next 9 years had been coincident with gonorrhoea, which had been absent the past five years, while rheumatism had involved the back and with a persistent "lumbago" the entire spine had become rigid. There was pain in the loins and under the shoulder blades, increased by walking and by jars. The patient was nervous and irritable and easily startled and felt as if the forehead were clasped by a tight band. His equilibrium was disturbed by the forward projection of the head and by the obliteration of the normal lordosis, so that he felt himself constantly inclined to fall forwards, whether sitting or standing.

Dr. Eliott asked whether gonorrhoea was excluded as a cause.

Dr. Whitman did not know whether the so-called rheumatism which had involved the back was gonorrhoeal in its origin or not.

Dr. Elliott asked whether the deformity was bony or fibrous.

Dr. Whitman thought it was partly fibrous and partly bony, an ossifying periostitis. The spine was not entirely rigid as there was discomfort on changing the position, although motion could not be demonstrated. He intended to try suspension as an experiment.

HAEMARTHROSIS OF THE KNEE.

Dr. Hibbs presented two brothers aged respectively 11 and 15 years. There was marked effusion and limitation of motion, without reflex muscular spasm, in both knees of the older boy and the left knee of the younger. The swelling was marked. The patients were first seen in July, 1899, 2 weeks after the older had a haemorrhage from the lips accompanied by what was evidently an acute haemorrhagic swelling of both knees. Elastic knee caps were ordered with immediate comfort and the boys were not seen again until recently. A feature of the history of each patient was that bleeding had occurred from various organs at intervals of one, two and three months and that with each recurrence walking was rendered impossible by the tense and painful swelling of the knees. No other joint had been affected. Their father had died of some acute disease and their mother was living and healthy. Two haemophiliac brothers had died in infancy but a sister was living and healthy. The synovitis caused by the haemorrhages had been prevented from resolution by their frequent recurrence. The effect of applying pressure would be observed and recorded.

Dr. C. A. Elsberg recurred to the case reported by him at the meeting of the Section held on October 20, 1899. A boy 2 years old had haemorrhage into the knee and three or four weeks later similar occurrences in three of the finger joints in a family in which the male children of healthy mothers had been haemophiliac. An elasitc knee cap had been applied and the child was fed on gelatine for a while on a theoretical rather than on any other basis. The patient was seen once a month and the blood in the knee was gradually absorbed leaving the joint in a practically normal condition. He would continue to wear the knee-cap removing it only at night. There had been repeated haemorrhages under the skin but no return of of bleeding into a joint.

Dr. H. S. Stokes said that haemophilia was generally transmitted through the mother to her male offspring, the daughters, like their mother, showing no sign of the condition although their male children were almost certain to be haemophiliac. The recurrence of swelling of the joint did not necessarily indicate another haemorrhage. A subacute or chronic synovitis was set up by the extravasation and more or less imperfect absorption. After a haemorrhage treatment should be prolonged to promote and terminate absorption. The general treatment should receive attention and rest, immobilization, pressure, strapping and counter-irritation should constitute the local treatment.

Dr. Hibbs said that, if done, strapping would have to be continued indefinitely as the knees in his cases were swollen all the time. The effect of one haemorrhage did not disappear before the occurrence of another.

A RUBBER SPLINT SHOE.

Dr. H. J. Bogardus exhibited a hip splint which was shod, not with leather but with a piece of the rubber tire in common use on the wheels of road vehicles. The tires were made in widths varying by ⅛ inch and in length about 13 feet, of which the waste ends were suitable for this purpose. A piece could be cut off with a wet knife blade and fastened on easily and most securely by the ingenious and yet simple application of a couple of screws. In economy, durability and noiselessness the shoe commended itself.

ADDITIONAL MECHANISM FOR THE HIP SPLINT.

Dr. Hibbs exhibited a modified hip splint. The upright was a hollow rod constructed in the usual manner excepting that it reached the ground and ended in a foot piece suitably shod for bearing the patient's weight. It also had a slot on its inner side which permitted a sliding rod to carry a second foot piece, not shod, to which were attached the leather traction straps. The sliding rod had at its upper part a rack moved by the usual pinion or key and at its lower part a veritable ratchet and spring catch. When the patient was recumbent traction was made by the key and secured in the usual manner and when the patient stood the downward pressure of his foot on the movable foot piece took in the slack of the traction straps, the additional traction thus made being retained by the automatic action of the spring catch of the ratchet.

Dr. Whitman said that the arrangement was much better than the ordinary one but a disadvantage was that the brace could not be made longer and therefore would be outgrown in a short time.

Dr. Hibbs said that when the upright of the ordinary splint was lengthened with the key it was thus weakened and had also to be replaced by a longer one.

Dr. Judson said that the additional traction gained when the patient was erect would prove to be too much when the patient lay down again.

Dr. Hibbs said that when necessary, which would not often happen, the extra traction could be relaxed by the attendant or the patient could loosen the buckles of the perineal straps.

PLAGUE EPIDEMIC IN THE VILLAGE OF KOLOBOVKA, RUSSIA.

Translated by P. A. Surg. H. D. Geddings from the annals of the Pasteur Institute, March, 1900, by Prof. V. Tchistowitch.

The village of Kolobovka, where an epidemic of plague broke out during the second half of the summer of 1899, is situated in the department of Astrakan, 8 versts from the city of Tsarev. It is situated on the high banks of the little river Ahtouba, one of the affluents of the Volga, and is surrounded by "steppes." There are in the village 3,500 inhabitants, all Russians, who are for the most part cultivators of grain and raisers of sheep. In summer the greater part of the population moves habitually on to the steppes, quite a distance from the village, for their field labors, and they are quartered in provisional barracks. This occurred last summer as usual, so that there only remained in the village 550 people, either too young or too old to work in the fields. The first case of plague showed itself July 16 (July 28), Marie Semakina, aged 35, a deaf mute, unmarried, and dwelling in one of the barracks on the steppes, fell sick. She had fever, vomiting, and cough with bloody expectoration. She was carried to the village where she died July 21 (August 2). To her burial her nearest relations came. Two of them became sick on July 22 (August 3), presented the same symptoms and died three days after. Finally, from this time to August 9 (August 21), there was quite a series of cases, above all among the persons in direct contact with the patients. There were in all 24 cases of plague, of which 23 were fatal. The symptoms were in all almost indentical, and the type of the disease hyperacute.

Ordinarily, death supervened on the second, third, or fourth day at latest. The disease was ushered in by a chill and the temperature rose to 40° C. and even higher. The patients complained of headache, pains in the chest, and general weakness. Quite frequently there was vomiting. Out of 24 patients, 17 presented a cough with abundant fluid and bloody expectoration. On percussion, however, it was not possible to establish the presence of dulness, but, on auscultation, rales, sometimes dry and sometimes moist were found. The pulse was frequent, even 120 to 140 per minute, and the tongue white and furred. Several of the patients had petechiæ on the skin. Buboes, properly speaking, were absent; in some patients, however, the glands were painful and slightly swollen. As to nervous phenomena, there was extreme lassitude, and later an agitation similar to drunkenness and which terminated in coma. Often the patients preserved entire consciousness up to within two or three hours of death.

For the sake of example, I will cite 2 cases where will be found a detailed statement of pathological conditions and bacteriologic findings.

1. Catherine Semekina, 54 years of age, in nursing her husband experienced on August 3 (August 15) great lassitude; temperature 38.9° C. On the three following days the temperature was normal and she complained only of headache. On August 8 (August 20) she had chills and the temperature rose to 39.1°-40° C., pulse 104-112; she complained of pain in the left chest and left hypochondrium; general weakness and was semicomatose from time to time. August 9 (August 21) temperature was 40° C., pulse 120-140, tongue white, petechiæ on skin. On auscultation, roughened respiration and rales. The neck was painful in the sterno-cleido-mastoid region. Died August 10 (August 22).

On necropsy made the day of death by Professor Levine about 400 c. c. of bloody serum was found in the left pleural cavity, and several ecchymoses upon the pleura and pericardium.

The connective tissue of the mediastinum was œdematous and presented several hemorrhagic areas. The lower lobe of the left lung was hypertrophied and hard, the surface of a reddish gray, not granular, and showed several confluent areas, gelatino-hemorrhagic in character, which covered the lobe. The upper lobe of the left lung and the entire right lung were hyperæmic and œdematous. The bronchial glands were enlarged and softened. The cervical and axillary glands were hyperæmic and of a cherry-red color. The retroperitoneal glands had undergone the same changes and the surrounding connective tissue was œdematous and the site of multiple hemorrhages. The left inguinal and femoral glands were enlarged and of a reddish purple color. In the largest femoral gland section showed two necrotic areas of a grayish yellow color. The spleen was manifestly increased in bulk, the capsule tense, and the parenchyma of a cherry-red color. The liver was large and soft, and upon its capsule were found hemorrhagic areas. The other organs presented no marked departures from the normal.

2. Barbe Ziovina, age 9, was taken sick in the evening of August 9 (August 21). Temperature 40.4° C., pulse 160, delirium during the night. On the morning of August 10 (August 22) temperature 39.4° C., pulse 100; evening, temperature 39.6° C., tongue white, vomiting and delirium. Morning August 11 (August 23) temperature 38.5° C., pulse 100, skin hard and dry, agonized expression of countenance, evening, temperature 40.3° C. The inguinal and cervical glands were swollen. Morning August 10 (Augus 24) temperature 38.5° C., pulse 94, respiration 44; fell into coma and died. At the necropsy made by Professor Levine there were found disseminated petechiæ upon the chest, shoulders, and thighs, varying in size from the head of a pin to a pea. Small hemorrhagic spots upon the layers of the pleura, the pericardium, peritoneum and upon the mucous layer of the stomach and intestines.

The axillary, femoral, inguinal, retroperitoneal and mesenteric glands were enlarged, soft, of a cherry red on the surface and on section riddled with miliary hemorrhages and yellowish sloughing areas. The surrounding connective tissue was the seat of numerous hemorrhages. The spleen was increased in volume, the capsule tense, the parenchyma soft and of a brownish red color. Hemorrhages into the capsule and suspensory ligaments of the liver. Kidneys hypertrophied, their capsules presenting numerous hemorrhagic areas. The connective tissue surrounding the renal calices is completely penetrated by hemorrhagic infiltrations.

In addition to these, necropsies were made on 3 other cases:

3. Theodose Semekine, age 18, fell sick July 30 (August 10). Died August 2 (August 14). On necropsy made by Professor Aroustamot there was a decided hyperæmia of the lower lobes

of the lungs, increase in the size of the spleen, disseminated miliary hemorrhages upon the pleura, endocardium, and mucous membrane of the stomach. There were no more important changes in other organs.

4. Marie Zlobina, 58 years old. She had had cough with abundant bloody expectoration, sibilant rales on auscultation, fever, etc. On necropsy made by Drs. Fedorof and Olchevsky there was found an induration of the upper lobe of the left lung, presenting on section a grayish mottled appearance. On pressure there flowed from the cut surface a purulent, reddish fluid. The spleen was not enlarged and was firm. The cardiac muscle was soft and of a yellow color.

5. Jean Ponamaref, age 80, died August 7 (August 19). Necropsy made by Dr. Schmidt. The only lesions found were hyperæmia of both lungs, but without areas of consolidation, a bloody fluid present in the right pleural cavity, and some ecchymotic spots upon this pleura. Bacteriological studies were made upon 3 of the 5 necropsies at Kolobovka; cultures had been made from the organs, from smears of the juice of organs from the last necropsies (Catherine Semekina and Barbe Zlobina). The first bacteriological studies were made on the spot at Kolobovka by Drs. Aroustamof and Schmidt, Professor Levine and M. Tartakovsky who all recognized that the disease was the plague. Subsequently Professor Wyssokowitch and I were summoned to Kolobovka and in the presence of Professor Levine we made control experiments upon the materials collected at Kolobovka. These control experiments were made at Astrakan in the laboratory of the administration of fisheries.

In the smears made with the juice of organs of the persons who had died at Kolobovka, there were constantly found numerous rods, in all respects similar to those of plague. They were particularly numerous in the preparations made with the juice from the lung and from the spleen of Semekina and from the spleen of Zlobina. In sections of these organs we also found a great quantity of these rods.

Further, we have examined 3 cultures prepared by Professor Levine; 1 made from the lung of Semekina, another from the spleen of Zlobina, and a third obtained from a mouse which had been inoculated with the spleen of Semekina. The first 2 cultures were identical with cultures derived from Bombay; short, immobile rods, rounded at their extremities, not colored by Gram, and developing in bouillion without rendering it turbid. Upon agar at the end of twenty-four hours at 37° C. there was produced a sticky, milk-white layer. In sugar-agar there was no fermentation. Inocculations killed mice at the end of three days and guinea pigs on the sixth day. There were formed around these inoculations a hemorrhagic infiltration, with swelling of the neighboring lymphatic glands. The spleen was increased in size. In guinea pigs there were seen at the necropsy, in the spleen and lungs, whitish nodules, surrounded by a red areola, formed by hyperæmic tissue. In smears made with the exudate from the seat of inoculation, with the juice of the spleen, the lungs, the lymph glands, and finally with the blood there were found numerous plague bacilli, with the very characteristic bipolar staining. They were in very large number in the nodules of the lung and spleen, and less numerous in the blood. The cultures were not pathogenic for pigeons.

In the third culture prepared by Professor Levine with the organs of the mouse, which had been inoculated with the spleen of Semekina, there were found bacilli which much resembled those of plague and which were pathogenic for mice.

However, they were distinguished from typical plague bacilli by the more rapid and abundant development in nutritive media, and they produced gas bubbles in sugar-agar. This bacillus should be better studied; it is possible that it may either be a variety of plague bacillus or even a pseudo-plague bacillus.

All these investigations enabled us to recognize in our report, presented to the commission on September 18, of the campaign against the epidemic, that the disease which had shown itself at Kolobovka was indeed an epidemic of plague.

Later all the cultures obtained at Kolobovka were again examined at Fort Alexander I, near Cronstadt. In these new studies Professor Vinogradof, Vinogradsky, Tchistovitch, Levine, Raptchevsky, Tartakovsky, and Drs. Zabolotny, Schmidt, and Dsienkovsky took part. The following are the conclusions of these bacteriologists:

1. The cultures presented by Professor Levine, Drs. Tartakovsky, and Schmidt, and prepared by them from the organs of 3 patients (Ponomaref, Semekina, and Zlobina) who died at Kolobovka, can not be distinguished, the one from the other in any important particular.

2. The shape and appearance of the organism, as well as the peculiarities of its growth in various culture media, as bouillon, peptonegelatine, peptone-agar, sugar-agar, and milk, correspond exactly to those of the organism of bubonic plague.

3. The pathogenic qualities of all the cultures of the organism examined correspond exactly to the same type. The bacillus injected in moderate doses, subcutaneously, kills mice in forty to fifty-four hours; guinea pigs in seventy-two hours to five days. A monkey (Macacus rhesus) to which was given a subcutaneous injection in the arm, had in twenty-four hours, a temperature of 39.6° C. and an axillary bubo on the side of the injection. Necropsies of the animal which succumbed in consequence of the injections presented the characteristic picture of experimental plague, and bacteriological studies of the various organs of these animals gave similar results.

4. Microscopic examination of sections of organs of 2 persons dead at Kolobovka (Zlobina and Semekina) enables us to prove the presence in these organs of large numbers of bacilli identical with those which were studied and found in the cultures, and which are the same as are usually found in the bodies of persons dead of bubonic plague.

Thus it was established and proved that the disease which had made its appearance at Kolobovka was truly the plague, and further that it was of a malignant type. In the 2 cases (Catherine Semekina and Marie Zlobina) which were studied most in detail the plague had assumed the pneumonic form and in the third (Barbe Zlobina) there was demonstrated a general swelling of the glands. Bacteriological study of this last case demonstrated that it was a case of mixed infection by the plague bacillus, which was found in great numbers in the spleen, and by diplostreptococcus. The fourth case (Theodose Semekina) was of the pneumonic type, but not completely evolved. Great numbers of the bacilli were found in the spleen and the blood.

The course of the disease was very rapid at Kolobovka. It killed promptly before the local manifestations could become established. And probably it is by reason of the great virulence of the bacilli that we can explain the peculiarity of the plague at Kolobovka; its exclusively pneumonic and septic type and the absence of the characteristic buboes.

How was the plague brought to Kolobovka? This question remains unanswered. It is possible that it may have come to Astrakan from Persia through Mussulman pilgrims, or, as is conjectured by Dr. Zabolotny, that it may have come from Mongolia. In the steppes which extend from the Volga to the Urals there are numerous nomadic Buddhist Kalmouks.

Before finishing I would like to say a few words concerning the measures which were taken to suppress the epidemic. These measures, executed under the supervision of the president of the commission for the suppression of the plague, Prince Oldenburg, consisted in a complete isolation of the infected locality. Kolobovka with the neighboring steppe was surrounded by a cordon composed at first of the inhabitants and afterwards of soldiers. This cordon extended for a distance of 195 versts. All the inhabitants of the locality were registered. The patients were transported to a special house which was converted into a hospital. Another house was prepared for the observation of suspects. The houses where there had been cases of plague were closed, sealed, and subsequently burned, and neighboring houses were disinfected. The village was divided into quarters and to each quarter there was appointed an "inquisitor" who twice a day made the rounds of the quarter, and made an inspection of the inhabitants, sending to hospital any new cases.

At two points of the cordon there were passages. At one of them was established a post of observation, furnished with a disinfecting chamber, baths, and small huts prepared for the lodgment of persons for a quarantine period of ten days, who might desire to leave the infected locality. The points of passage were connected with each other by telephone, and with the city of Tsarev. The dead were interred in a special cemetery and the graves were filled and covered with a thick layer of lime.

On August 23 preventive inoculations with Haffkine prophylactic were begun. Nearly 4,000 were inoculated and there only remained 40 non-inoculated people. The last patient, who was stricken August 1, recovered; since then there have been no more cases of plague in Kolobovka.

After having burned the infected houses and disinfected the neighboring ones, the cordon was raised on September 12, but the post of observation remained until the following spring.

SYMPTOMATOLOGIC DIAGNOSIS OF VULVULAR OBSTIPATION,*

(Abstract)

By Thos. Chas. Martin, M.D., Cleveland, Ohio.

Obstipation is that form of impaired defecation which is due to the presence in the rectum of an organic obstacle to the descent of the feces through it.

If it be the function of the normal rectal valve to beneficently retard the descent of the feces it is obviously true that it may be the especial property of the valve in certain other than normal conditions to maliciously obstruct the descent of the feces.

The position of the obstructing valve and the character of its disease may be determined from the patient's symptoms and, I may add, also, that one skilled in proctoscopy may on inspection of the rectum detail to the patient the history of the case without a word having passed on the subject.

1. Valvular obstruction below the rectosigmoidal juncture.
2. Valvular obstruction at the rectosigmoidal juncture.
3. Anatomic coarctation or congenital juxtaposition of the rectal valves.
4. Hypertrophy of the rectal valve.
5. Fibrosis of the rectal valve.

1. Valvular obstruction below the rectosigmoidal juncture is characterized by straining at stool for the passage of solid feces.

2. Valvular obstruction at the rectosigmoidal juncture is characterized by long intervals between the acts of defecation; by an occasional passage of a considerable quantity of feces without much straining, and, by tenderness and a sense of fullness in the left iliac fossa and lower abdominal regions.

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*Read at recent meeting of the Ohio State Medical Society.

3. If two rectal valves develope in such a degree of anatomic propinquity that the pressure of the feces on the proximal valve will put the free border of that valve upon and across the next lower valve there is erected at one point an almost impassible barrier to the descent of the feces for the reason that the interlocked valves unite and form a diaphragm which temporarily walls off the rectal chamber occupied by the feces from the next lower empty chamber.

4. Hypertrophy of the rectal valve is characterized by the almost sudden establishment of obstipation. The condition is initiated by a sense of gentle aching and moderate heat in the sacral region, by aching down the thighs and by discharges of a small amount of viscid mucus.

5. Fibrosis of the rectal valve is characterized by a very gradual development of the obstrpation. Valvotomy cures.

*SHALL THE SPECIALIST DIVIDE THE FEE WITH THE GENERAL PRACTITIONER?

By Emory Lanphear, M.D., Ph.D., LL.D., St. Louis, Mo.,

Formerly Professor of Surgery in the Kansas City Medical College and in the St. Louis College of Physicians and Surgeons; Gynecologist to St. Joseph Sanatorium.

When an attorney in a county-seat has a client in danger of the penitentiary and hence in need of the very best counsel, it is customary for him to seek some eminent lawyer of a great city and request his aid. Does he approach the distinguished gentleman and say: "I have a client accused of ———, who is able to pay $3,000.00 for his acquittal; will you take the case with me for this sum—leaving me the gratification of having done my professional duty?" By no means! He plainly states: "My patron has $3,000.00 to spend for his defense; are you willing to take $2,000.00 of this to join me in securing justice for him?"

Arrangements of this kind are daily made in every large city. Does anyone ever suggest that the country attorney has been doing a dishonorable act in thus securing his city brother to do the major part of the work for $2,000, he retaining $1,000 for his services? Would a doctor, sued for $100,000, regard such a transaction as disgraceful, unethical, objectionable, if thereby he saved this sum?

But let the question be one of saving life instead of securing liberty or preventing a financial loss—and how different it is!

If a country practitioner has a patient affected with recurrent appendicitis (upon whom he might operate with success, but fears possible failure) with a prospective fee of $600, must he—in order to be "ethical"—write to some city surgeon to come to his help, take all of the $600, and leave him merely the satisfaction of a duty well performed, or possibly pay for a few visits at starvation rates? "Upon what meat doth this our Caesar feed that he hath grown so great?"

Why should not the country doctor say to the city specialist: "I have a patient with appendicitis, who is able to pay $600. Will you operate for $400 and allow me $200 for the preparation, after-treatment, etc.?" What would be wrong about this? Let Drs. Robt. T. Morris, of New York, and Burnside Foster, of St. Paul, who so violently maintain that division of the fee is unethical under any and all circumstances, point out what injustice would thereby be done to (a) the patient, (b) the attending physician, and (c) the eminent surgeon. Why should we not learn a few things from the methods of our most noted lawyers, men who are above suspicion as to purity of motives? Have we not hitherto been too unmindful of the financial interests of ourselves and our professional brothers?

I maintain that the payment of a "commission" for all business simply "referred" to a specialist, or for mere consultations, is probably unethical—certainly demoralizing in tendency; but that division of the fee is perfectly honorable and right when the specialist and the general practitioner jointly share the work and the responsibility.

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*Extract from a paper read at the Missouri State Medical Society, May, 1900.

BEE POISON FOR ABORTION AND STERILITY.

A terrible new weapon for the homicidal abortionist, and a sure cure for sterility, has been found by a veterinary surgeon as reported by Dr. E. S. Estys in the Medical Visitor. It is an extract of the poison of the honey bee. This veterinarian alleges that "Apis Mellifica," as it is called, given to a mare to the quantity of one ounce, will not only produce abortion, but render her barren ever afterwards. When given for this purpose it is prescribed in one drachm doses, once or twice a day, for two or three days. It causes a derangement of the entire system, followed by a menorrhagia. Upon dogs, also it will produce abortion and barrenness. He claims that Apis will destroy the ovaries by inflammation and thus prevent conception and even desire (a quite sure result!). He says it is a dangerous remedy to use, as in one case he came near causing the death of a handsome poodle by the long continued menorrhagia. After the poodle recovered, it remained barren.

He also claims that this remedy would cure sterility if given in highly attenuated doses for a period of a month.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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Annual Subscription, in advance, domestic,	**$1.00**
Annual Subscription, in advance, foreign,	**1.50**
Single Copies, This number,	**.15**

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THE MEDICAL DIAL, MINNEAPOLIS, MINN.
Masonic Temple.

JUNE, 1900.

THE MINNESOTA STATE MEDICAL SOCIETY.

It is presumed that no physician of Minnesota will forget the thirty-second annual meeting of the Minnesota State Medical Society to convene in the city of Duluth, June 27, this year. We are assured that the coming meeting will be an interesting and profitable occasion, and that many valuable papers will be presented by leading physicians of the state. Duluth is said to be a delightful place for such a gathering, and from our acquaintance with the physicians there we can safely say that their reception will be cordial and hearty.

There are several questions of importance to be discussed aside from strictly professional subjects, that ought to call together all the physicians of the state, whether members or not, and if they are not members they ought to become such at this coming session.

It seems to us that the subject of sanitary protection ought to be a topic to call forth much discussion, now that we are just approaching the heated term of the year. The best scientific prophylaxis against the plague, should this hydra-headed monster ever visit our state, against smallpox, against consumption, against typhoid fever, against scarlet fever, against the "grip," against leprosy, and all other contagious diseases, should be thoroughly expounded by competent experts. Such measures as are best suited to prevent the spread of these foes to health should be recommended for the guidance of health officers. It will surprise many to be told of the wonderful influence of such recommendations coming as they will from the State Medical Society.

THE TWO-MEAL-A-DAY IDEA.

There is no question but that a majority of the people eat too much at the three meals each day now in vogue in this country, and in some of the other civilized nations where it is the custom to indulge from four to six times a day. In order to counteract the tendency to overeat it is becoming quite the fad with many to limit their eating to two meals each twenty-four hours, but this habit is liable to do harm, as the eater is prone, on account of his postponed satisfaction, to gormandize excessively, thus distending the stomach and other digestive organs and overtaxing them to such an extent as to do actual permanent injury.

It must be admitted, however, that, in some occupations, where the muscular and mental activities are not taxed to an approaching limit, the two-meal-a-day idea could be carried out with physiological profit, provided that those who indulge in the habit will be careful not to unduly overload with the food provided. But there is a limit in the other direction, for a man may have the experience of Deacon Shay's horse which was fed on shavings to save expense. About the time the animal got used to the shavings it died.

PROPHYLACTIC MEASURES AGAINST THE BUBONIC PLAGUE.

While there is no probability that this fell disease will ever approach an epidemic form in America, yet it is perfectly proper for the health officers of our larger cities to take the proper precautions to prevent its spread should the bubonic plague ever gain a foothold in any of the centers of population.

The second scare in San Francisco announced a few days ago in the dispatches, admonish those in authority of the dangers in the matter of its spread. It would be well for every municipality to prepare for what might in the course of events occur and take advantage of every scientific and medical precaution known to modern prophylaxis. One of the very first things proper in the premises, and one that would apply to any approaching scourge, would be the scrupulous inspection of all cesspools and garbage infected localities, and after the authorities have satisfied themselves that unsanitary conditions exist, they should without a moment's delay, order them to be thoroughly eradicated. Such steps are in the line of decency and should be taken, plague or no plague, malaria or no malaria, cholera or no cholera.

We are glad to note that the Health Commissioner of Minneapolis, Dr. Norton, is on the alert for a possible invasion of our city by the bubonic plague. We are told that this official, in order to be amply prepared for the unexpected in matters pertaining to the health of the city is now in consultation with the medical authorities in Washington and San Francisco relative to the situation on the coast.

He has written the health authorities of the infected city asking them to inform him what is the extent of the disease and also to give full details regarding its symptoms and what their belief is regarding the possibilities of it spreading throughout the country. The deduction in the latter case will, of course, be made from the data obtained relative to its being prevalent among the better class of people in the territory where it is now found.

Dr. Norton has also requested the surgeon-general of the marine hospital at Washington to supply him with haffkine or serum, used for inoculation as preventative for the spread of the disease.

What is being done by the health authorities is in the way of precaution only, as there is no reason to believe the city will be infected by the plague.

BOSTON'S WAR ON TUBERCULOSIS.

According to a recent dispatch the health officers of the city of Boston have commenced an active crusade against consumption. It is announced that hereafter every physician in Boston must report every case of consumption that comes to his notice to the board of health as he would any other case of contagious disease. After a death from this disease hereafter the premises will be entered upon by the board of health officers and disinfection performed and other means will be taken to guard against the spread of the malady in Boston. These new rules have just been issued by the board of health and the plan is to enter upon a vigorous campaign against tuberculosis and stamp it out, if such a thing is possible. Dr. Durgin, of the board of health said:

"Boston is one of the worst places on earth for consumption. The board of health has decided that every precaution must be taken to prevent its spread. Consumption used to be considered an hereditary disease. Medical science, however, has proved that it is a purely contagious disease, and one of the worst there is. We are going to try the plan of rigorous disinfection and control."

Deaths in Boston from consumption have decreased from 1,349 in 1895 to 1,236 in 1899, and the board hopes to still further lessen its ravages.

A WOMAN SAID TO HAVE GIVEN BIRTH TO NINE FISHES.

The report comes from Rome that a woman of Palermo gave birth, recently, to nine fishes, but this is nothing strange, when we recollect that during the last century two large brazen dishes were exhibited in the village church at Losdun, near The Hague, in which it was alleged that 365 infants, 182 males and 182 females, with one hermaphrodite, said to have been born to Countess Margaret, spouse of Count Hermann of Henneberg, had been christened. The fishes mentioned above came after only four months, and it is probable that each was only a blood-clot from an ordinary abortion, which probably resembled poliwogs or little red fishes in a way, thus being the origin of the report among the ignorant that they were fishes.

THE EFFECTS OF COCAINE.

An apothecary of the West Indies undertook to experiment on himself to determine the effects of cocaine on the human system. In a contribution (N. Y. Med. Jour., Feb. 3, 1900,) he gives the following interesting account of his experiences during the test:

"After the first quantities, say between five and ten grains were swallowed, I felt elated, full of life and vigor, cheerful, seeing everything in the rosiest of lights; my mind would clear up and things incomprehensible to me at other times would become plain and evident. I would be willing to and actually did undergo heavy physical and mental work which under normal conditions I could not possibly have accomplished. It is the most agreeable of sensations, because one feels perfectly and serenely happy. As the dose increased the symptoms would change gradually till the full amount being absorbed, the toxic symptoms appeared. I felt haunted, restless, morose, quarrelsome; had hallucinations of being persecuted and of impending evil; my heart would be pounding at a fearful rate so that I could actually hear its throbbing; the eyes got glassy, with a fixed staring look; the tongue was heavy and unable to move at will; a terrible and incessant hacking cough shook the frame; the mind was obfuscated; there was inability to eat, with no feeling of hunger, and there were insomnia and an insatiable craving for alcoholic stimulants. These were the most terrible of the many symptoms. Under ordinary circumstances I can stand no strong drinks, and yet, under the cocaine influence I drank daily a bottle of brandy during those hours, and when no other drinks were at hand I often actually drank pure alcohol, such was the craving for it; and probably it was due to the cocaine that I never got so intoxicated as the amount of liquor taken would justify one in believing."

SURGICAL HINTS.

Girls near the epoch of puberty are often frightened by more or less severe pains in the breasts. These fears must be quieted, for the pains will pass away in time. Tonics and mild, soothing liniments should be employed.

Never apply a plaster-of-Paris dressing without frequently inspecting the limb upon which it has been placed, and directing that you are to be called if there is any swelling of the extremity or any increase in pain.

If you find a distinct prostatic enlargement in a man who is otherwise in good health, beware of passing any instruments unless they are absolutely required to void the urine. Otherwise they do no good, and may cause a great deal of trouble.

While pain in the knee is usually due to local trouble, it may be nothing but a symptom of disease of the spinal cord or of its membranes, or of pressure upon the anterior crural, obturator, or sciatic nerves, or the result of a reflex irritation, due to disease of the sacro-illiac or hip-joint.—Inter. Jour. of Surg.

ELECTIVE AFFINITY OF MICROBES FOR THE TISSUES.

MM. Bezancon and Labbe (Gaz. hebdomadaire de med. etc.,) have shown that when experiments are made with a microbe which has produced a lesion of some organ, this microbe acquires a kind of affinity for the organ in which it has developed. For instance, on infecting animals with staphylococci coming from a suppurative arthritis, they have shown that the staphylococcus, in place of producing general infection of the animals, induces suppurative arthritis in them. In two case only did the staphylococcus pass into the general circulation and induce endocarditis. Then a fresh series of inoculations made with this last staphylococcus no longer induced arthritis, but endocarditis. By this affinity the epidemic manifestations of certain maladies produced by specific organisms may be explained—e. g., the contagion of otitis media to which M. Lermoyez has recently directed attention.—N. Y. Med. Jour.

In some flourescent screens used for Roentgen ray work, notably those made of Sidot's zinc sulphide, a certain time effect is observed at each operation. The bones of the hand are not visible at once on the screen. They gradually separate out from the flesh. This effect is only partially due to a change in the radiation impinging upon the screen. We know that the "hard" tube gives more decided radiographs, and the effect might be attributed to the hardening of the tubes while in action. But, on the other hand, a gradual and distinct brightening of the screen is observed, which is quite independent of any change in the radiation and is unaccompanied by any change of color or of chemical constitution that could be discovered by any means at present available. J. Precht has studied the time effect both in sulphide and in platino-cyanide screens. He finds that the time required for a good development of the radioscopic picture is, on the whole, shortest at the highest discharge potentials. It varies from a few seconds to a minute. The most obvious explanation lies in an allotrophic modification of the substance of the screen, as postulated by Becquerel for radium rays. But the author puts forward an emission hypothesis of Roentgen rays.—J. Precht, Ann der Physik, No. 2, 1000.

Dr. A.: "Doctor, what do you think of the prospective rupture with Turkey?"

Dr. B.: "I think it will become strangulated, and will require 'taxis.'"

Correspondence.

CONCERNING THE COMMON COMMUNION CUP.

We are pleased to publish the following communications from well-known local pastors in regard to the subject of the common communion cup, the same being prompted by an editorial on "The Pathology of the Common Communion Cup," which appeared in the April number of The Medical Dial:

Minneapolis, Minn., April 26, 1900.
To the Editors of The Medical Dial:

Dear Doctors:—I have read the article on "The Pathology of the Common Communion Cup," and fully believe the time has come for a change to the "Individual Cup."

At Plymouth Church we have made the transfer, I think to the satisfaction of all communicants, though it is a delicate matter to accomplish. The revulsion which accompanies the use of the common cup is intensified by the statement of the pathological conditions and perils, so that after the subject is once agitated it is inevitable that the change come. Really, there need be no less fellowship or of sanctity by use of the individual cup, and it removes a peril, the very suggestion of which is fatal to a genuine enjoyment of the sacrament.

Yours, L. H. Hallock.
Pastor Plymouth Church. (Congregational)

Minneapolis, Minn., May 7th, 1900.
To the Editors of the Medical Dial:

Dear Doctors:—I have read your editorial on "The Pathology of the Common Communion Cup," and am in entire sympathy with the views presented there. Some time since our church, the First Baptist, changed from the common cup to the individual cup and I think without exception the members are pleased with the change.

Yours respectfully, W. B. Riley.
Pastor First Baptist Church.

Minneapolis, Minn., April 27th, 1900.
To the Editors of the Medical Dial:

Dear Doctors:—I am in hearty accord with the tenor of the editorial on the "Pathology of the Common Communion Cup." There is a growing repugnance to the promiscuous use of the same cup at the communion service and a feeling that in the interest of what is "clean and pure and wholesome" the individual communion cup is desirable. Nothing ought to be done in the name of religion that according to the best knowledge we have will endanger another's health or offend his sense of decency and cleanliness. The use of the individual cup in no way destroys the sacredness of the ordinance, but does satisfy the tastes of many who shrink from the use of the common cup. The change is being agitated in our own church and I trust we shall soon be among those who use the individual cups.

Cordially yours, W. W. Dawley.
Pastor Central Baptist Church, Grant St. and 4th Ave. South.

Minneapolis, Minn., April 26th, 1900.
To the Editors of The Medical Dial:

Dear Doctors:—I am opposed to the use of the "single communion cup" for two reasons. First, there are no more bacilli now than there have been for nearly two thousand years, and we have not much evidence to prove that much damage has been done by the "common cup;" indeed, it remains to be proved that one case of disease has thus been communicated. Second, the single cup destroys the sentiment of the whole beautiful service, removes the "loving cup" idea, and makes one think he is taking his own little dose of medicine, and that in an allopathic sort of a way. I think the whole movement is pushed for the money there is in it for the manufacturers of the single cup communion sets.

Truly, Chas. B. Mitchell.
Pastor Hennepin Avenue Methodist Episcopal Church.

Minneapolis, Minn., May 10, 1900.
To the Editors of The Medical Dial:

Dear Doctors:—While I admit that there are some objectionable and possibly unsanitary features connected with the use of one cup, yet I am not prepared to advocate the change from one to the individual cup. Jesus doubtless used the one cup in common when He instituted the sacrament.

I could wish that men would quit wearing the indecent and decidedly unsanitary mustache. The most objectionable feature in the use of the one cup would then disappear, but if they will persist in using that microbe breeding thing then I wish they would have the goodness to wait until the last table before coming to the altar to partake of the holy sacrament.

Your Brother, T. F. Allen.
Pastor Thirteenth Avenue M. E. Church.

Holmes Hotel,
Minneapolis, Minn., Apr. 26, 1900.
To the Editors of The Medical Dial:

Dear Doctors:—With reference to the "pathology of the common communion cup," I appreciate the considerations which are urged in your editorial in The Medical Dial. My practice is to cleanse the chalice with a purificator frequently during the communion. But my reasons, in the briefest form, for not advocating the individual communion cup are:

1st. The present method is one adopted at the Divine Institution of this sacrament.

2nd. I have not heard of any malady being traced to the common use of the communion cup though I have been long interested in this subject.

It is quite in accordance with the spirit of the Bible to take hygienic precautions. A few of our clergy cleanse the rim of the chalice with a purificator after each participant. Would not that suffice?

Respectfully yours, Frederick T. Webb.
Pastor St. Paul's Episcopal Church.

ROENTGEN SOCIETY OF THE UNITED STATES.

The secretary, J. Rudis-Jicinsky, M. D., of Cedar Rapids, Iowa, of this newly organized society has sent to this journal the following communication, which will be of interest to many physicians:

Cedar Rapids, Iowa, May 21st, 1900.
To the Editors of The Medical Dial:

Dear Doctors:—Allow me to announce to you, that there has been organized a Roentgen Society of the United States, with the American X Ray Journal, St. Louis, Mo., as the official organ.

This Society is the only one of its kind in America, national in character, and is already represented by members in every state: Physicians, Surgeons, Dentists, Radiographers, etc.

The Constitution is similar to those of the Roentgen Societies in Europe. Annual dues $5.00, journal free.

Regular meeting will be held in December, 1900, in New York, N. Y. Many able papers have been promised by eminent men abroad and here, and a very successful scientific meeting is assured. There will be a large and interesting exhibition of X Ray, Photo and Electro-therapeutic apparatus, radiographs, etc., during the meeting of the society. Chairman of the Committee of arrangements, Dr. Monnel in New York, has the plans well in hand and much of the necessary detail will be soon completed.

The Society will be represented at the International Congress of Medical Electrology and Radiology in Paris, France, by Dr. Price, of Cleveland, Ohio.

All particulars for all interested in this meeting will be cheerfully given by the secretary.

Yours very truly,
J. Rudis-Jicinsky, M. D.

THE NEW INDEX-MEDICUS OF FRANCE.

We are in receipt of the first and second numbers of "Bibliographia Medica," the new Index Medicus published in Paris. It is very complete in its classifications and quite exhaustive in all the subjects. It is a worthy successor to the American Index-Medicus, and will, no doubt, receive a generous support. It is of course in the French language.

Progress of Medicine.

Neurology and Psychiatry.

UNDER THE CHARGE OF
W. A. JONES, M. D.

THE USE OF SUPRARENAL EXTRACT IN HAY FEVER AND ASTHMA.

THE TREATMENT OF HAY FEVER BY SUPRARENAL GLAND.

By Beaman Douglass, M.D. (New York Med. Jour., May 12, 1900.)

THE USE OF ADRENAL SUBSTANCE IN THE TREATMENT OF ASTHMA.

By Solomon Solis-Cohen, M.D. (Jour. A. M. A., May 12, 1900.)

The two papers whose titles are given above are not only interesting from the very favorable account which they contain of the usefulness of suprarenal extract, but also for the illustration they afford of two distinct varieties of medical literature. Dr. Douglass' paper is a very clear and interesting account of the advantages of the suprarenal gland over other forms of treatment for hay fever, giving a good description of the action of the gland on the nasal mucous membrane as well as definite direction for its method of use and the size of the dose. He discusses the question of secondary ill effects, comparing them with that of other drugs ordinarily used; gives good proof that the internal administration of the drug is efficacious, and backs his statements by the quotation of various authorities.

Dr. Solis-Cohen's paper on the other hand discusses briefly the question of asthma in general, describes the form of asthma in which the extract is useful, and shows the relations of that form of asthma to other and quite different disturbances which are dependent on a similar lack of control of the blood vessels, and are consequently equally favorably influenced by the use of the adrenal glands. To use the German phrase Solis-Cohen has given the orientation of this particular substance.

Both papers are good of their kind, but that of Solis-Cohen is decidedly of the higher kind, and is not only more comprehensive, but at the same time much the shorter of the two.

Dr. Douglass says: "The most apparent and constant clinical lesion of hay fever is a nasal vasomotor paralysis with an accompanying congestion and oedema, producing certain symptoms which are distinctly characteristic, but which are never more than the symptoms of a severe acute inflammation of the respiratory mucous membrane." Applied locally the extract produces shrinking of the vessels, diminution in the size of the erectile tissue, the cessation of coryza, and diminution in size of hypertrophied masses. A similar effect is produced by its internal administration which relieves the congestion of the nasal mucous membrane while at the same time the headache disappears, the hypersensitiveness of the nerves diminishes, and the sneezing and coughing almost entirely disappear in twenty-four hours. The writer recommends a combination of the local and internal administration of the extract. Locally apply by means of spray or pledget saturated with the solution. A solution of six or twelve per cent. is made by shaking up the dried extract in water and letting stand for two hours, until it has fully settled, when the clear solution is to be used. This may be applied in form of spray every two hours until the symptoms are relieved. Internally five grains of saccharated extract are administered every two hours day and night until some giddiness or palpitation is observed or until the local examination of the nasal membrane shows that the remedy is controlling the vaso-motor paralysis, then reduce the frequency to every three or six hours and finally to twice a day. In cases with but slight congestion, in those where there is loss of elasticity of the blood vessels due to an atheromatous condition, or resulting from interstitial nephritis, or in cases showing some degeneration of the heart muscle no benefit is received from the extract. The size and frequency of these doses are decidedly larger than those recommended by Solis-Cohen which will be given later on.

Dr. Solis-Cohen says: "Adrenal substance is not applicable to the treatment of all asthmatic patients or to all varieties of asthma. It is applicable in the treatment of some of those in whom this affection is associated with other manifestations of what I have elsewhere termed vaso-motor ataxia of the relaxing variety. Under this head I include among others, patients who are subject to urticaria or in whom factitious urticaria may be easily produced; those who are vascularly, extremely sensitive to slight changes in weather and climate, or who exhibit idiosyncrasies in this respect, as in their reaction to drugs; those whose cardiovascular balance is easily disturbed by emotion or by digestive disorder or other slight intoxication; some hay fever subjects; persons subject to congestive hemicrania; and those who show signs of renal leakage, either by intermittent albuminuria, or by the occasional presence of tube casts; in whom, therefore, we are dealing with what may be called functional rather than organic lesion.

"Believing that in such cases the immediate mechanism of the obstruction to respiration, manifested by the asthmatic paroxysm, is an irregular swelling of the bronchial mucosa, allied to the condition of circumscript oedema—angioneutotic oedema—or urticaria, and that by increasing the vascular tone through the administration of that substance which nature seems to have designed for its maintenance, we might prevent such attacks, I have, during the last few years, used adrenal substance in the treatment of such patients. It has in but one dubious instance served to cut short a paroxysm, though it has occasionally mitigated distress in greater or less degree.

"It has, however, been useful in averting the recurrence of paroxysms and in finally bringing about a state of freedom from the fear of their recurrence. I therefore speak of the use of adrenal substance not as a treatment for asthma, but as a measure applicable in the treatment of certain cases of the affection."

The rule for dosage is said to be 'enough.' As there is great difference in cases and in individuals he advises beginning with small doses frequently repeated, e.g., 1 grain every hour or every two hours, or with a moderate dose, say 5 grains, once or twice daily. He has given as few as 3 grains and as many as 90 grains of the desiccated gland in twenty-four hours.

W. A. J.

SYSTEMATIC TREATMENT OF THE CONSUMPTIVE POOR.

The treatment of the consumptive poor is beset with so many difficulties that it must be admitted to be very unsatisfactory. The appeal of Dr. John F. Russel (N. Y. Med. Journal, May 5, 1900), is timely and of great practical interest. In January, 1898, Dr. Russell laid his plan before the members of the executive committee of the Post-Graduate Hospital and it was arranged that cases of pulmonary tuberculosis in the early stage should be selected from among the poor, and, further, in order to relieve the experiment of any possible bias by the doctor's personal interest or enthusiasm, the executive committee appointed a comittee of inspection composed of physicians to examine and observe the patients under treatment and from time to time report the results of such observation. The work was begun at the dispensary May 14, 1898. Dr. Russell goes on to say:

"Since then two reports have been made by the committee of inspection. The first, dated July 19, 1898, enumerates five cases in which all physical signs of disease had disappeared; the second, dated July 21, 1899, reviews the previous cases reported (with the result that four are cured and one relapsed) and adds five more cases of apparent cure. With the exception of four patients at present under treatment, these ten represent practically all the suitable cases that I have been able to collect. There is no difficulty in securing cases in which the disease is too far advanced to be relieved by this or any other treatment, and I doubt if any one who has not attempted to get together a number of people suffering with uncomplicated pulmonary tuberculosis in the early stage can understand the great difficulties of such an undertaking. The great prevalence of the disease, the unusual number and ability of writers engaged in spreading information concerning its nature and prevention, and the universal interest in the general subject would appear to make it the simplest of tasks. It seems probable that no single physician comes into professional relations with a large number of these cases in the course of the year, but that the profession as a whole see a very large number there can be no doubt, and it is with the object of attracting general interest among physicians in New York to aid in carrying this experiment to a conclusion that I make this appeal. The reasonable expectation of success offered as a justification for this appeal is based upon the wide acceptation among medical men that the general plan of treatment here advocated, when applied under other conditions, yields the best results (both for the relief of the disease and in affording protection to the healthy), and upon the ten cases so far reported. The patients belong to the poor, who can afford no other than dispensary treatment; almost all of them work, are treated without interruption to their work, and are therefore maintained as self-supporting. If not relieved by this or some similar plan they and their families finally become dependent upon the charity of relatives or friends or the city.

"The success and feasibility of the plan having been demonstrated, the problem of caring for the self-supporting consumptive poor who can not seek relief in sanatoria has in considerable part been solved, and it seems to me that dispensaries for this purpose should be multiplied throughout the city, so that in the progress of knowledge the average person who now believes the disease to be incurable will early seek relief for his cough, instead of, as at present, concealing his fears and working on in the desperate hope that his illness is not consumption, until finally, too ill to work and too far advanced to be relieved, his family scattered, he becomes a public charge. Surely a dispensary could have no higher purpose than this.

"At the beginning of the experiment a letter addressed to the gentlemen of the committee of inspection explained the general purpose and plan briefly as follows:

"That the object of the experiment was to prove uncomplicated pulmonary tuberculosis in the early stage among the poor, curable by dispensary treatment.

"That patients were to report every morning and every evening, and receive a preparation of digested mixed fats, the hours being arranged especially for those who labored. The only requirements exacted of the patients were that they should come twice each day and that they should have sufficient means to obtain their ordinary food regularly at home.

"That, as very far advanced cases were considered incurable under the most favorable conditions, we should restrict membership in this class to patients in whom the disease was not far advanced; excluding all cases with cavities, all cases in which a large amount of lung tissue was involved, even though there were no cavities, tuberculosis laryngitis, kidney and liver diseases, etc.

"That no cases would be treated which the members of the committee regarded as doubtful cases of pulmonary tuberculosis. 'They must all agree that each case is one of undoubted pulmonary consumption.'

"Usually it is not difficult at a first examination to determine whether a case is suitable or unsuitable for treatment. There are, however, a number of applicants whose lungs show extensive disease without cavities which has lasted often a year or more, of whom the prospect of relief cannot be judged by a single examination, and in such instances they are allowed to come for three or four weeks on probation, during which time, from repeated examinations and observations, a decision is reached.

"When applicants are accepted, they are told that they have consumption; that the treatment lasts for many months, and that the hope of cure rests with them in faithfully carrying out all the instructions, which are:

"1. That they must come to the dispensary twice each day, Sundays and holidays included, without regard to weather.

"2. That they must eat regularly and all they can of what they have, being guided in their selection of food as far as possible by our suggestions. Tea and coffee are allowed but once a day, and all alcoholics are forbidden.

"3. That they must keep their feet dry and warm and avoid overclothing. Corsets are forbidden.

"4. That they must sleep with windows wide open in all weather; that they are to keep in the open air, avoiding overexertion or exercise as much as possible; that they must not go to places of amusement, keep late hours at night, etc.

"5. That they are to have a satisfactory movement of the bowels each day. No medicine except cathartics are used.

"A copy of the following, which is made up in greater part from the leaflet of Dr. J. B. Russell, Medical Officer of the City of Glasgow, and in lesser part from the 'Information for Consumptives and those loving with them,' of the New York Health Board, is given each patient:

"It is expected that every patient will read carefully and preserve this paper, and observe the instructions which it contains, and any others given with the same end in view.

"Consumption is an acquired, not an hereditary, disease. What a child may inherit is not the seed, but the 'good ground' in which the seed will grow readily. This is known as an 'hereditary predisposition to consumption.' Special care ought to be taken to protect persons possessing it from any chance of catching the disease. Colds, sore throats, infectious diseases, intemperance, overcrowding, darkness, dampness, stale air—in short, whatever lowers health produces a predisposition to consumption altogether apart from pedigree.

"Consumption of the lungs is only one of the many forms of disease caused by a minute living creature (germ or microbe)—the bacillus of tubercle. Every case of consumption has received this bacillus, either from man or beast, and may pass it on to man or beast. Good health, local and general, is like a coat of mail against attacks of the bacillus of tubercle.

"Every person suffering from consumption suffers from a disease which may be communicated to other persons. This takes place through the spit, which contains bacilli. So long as the spit is moist it can do no harm, unless under such circumstances as are dwelt with in Rules 6 and 7.

"The spit is gravely dangerous only when allowed to dry, become dust, and so infect the air we breathe.

"The surest way to form infectious dust is to spit in a handkerchief and put it in the pocket or beneath the pillow, or to spit upon the floor, wall, or stove.

"The same result follows if spit is smeared over hands, bedclothes, night dresses, etc., or, in the case of men, over mustaches or beard.

"Practically, then, a case of consumption may be made perfectly harmless by preventing the spit from becoming dust.

"1. Indoors.—The greatest care is necessary. Dust in closed places is the dust which infects. Use a spittoon containing a little water (not sand or sawdust), or spit into a rag or piece of paper, to be burned at once or thrown into the water-closet.

"2. Out of Doors.—Dust is not so dangerous outdoors, as it is disinfected by sunshine and fresh air. It is therefore better to spit on the ground than into a handkerchief or into anything which is to be put into one's pocket, except a special spit bottle or paper cup. Paper cups are better than ordinary cups or bottles, as they, with their contents, may be burned after use. A cheap and convenient form of paper cup for this purpose may be purchased at many drug stores. Failing this, spit into the gutter; never on the pavement, and never in a street or railway car, 'bus, cab, or carriage. Never swallow the spit; it may infect the bowels.

"3. If a handkerchief or other article is soiled with tuberculous spit, keep it wet until it can be boiled and washed.

"4. Empty the contents of the spittoon down the water-closet, and clean the spittoon with boiling water. A little carbolic acid will keep the flies away; these carry off infective matter.

"5. In cleaning rooms occupied by consumptives, capture the dust with damp dusters and tea leaves or damp sawdust used in sweeping. Do not chase it about or stir it up. Boil the dusters; burn the sawdust and tea leaves.

"6. No spoon, cup, or other article which has been applied to the mouth of a consumptive ought to be used by a healthy person until it has been carefully washed in boiling water. The remains of food left by a consumptive ought not to be used by the healthy.

"7. No consumptive ought to kiss or be kissed, except on the cheek or brow.

"8. No consumptive mother should nurse her child.

"9. Consumptive persons ought to have a bed to themselves.

"10. Sunlight and fresh air are never-failing disinfectants. Use them freely.

"N. B.—Consumption is not communicable by the breath or perspiration.

"If the matter coughed up be properly destroyed, a person suffering from consumption may frequently not only do his usual work without giving the disease to others, but may also thus improve his own condition and his chances of getting well. And if all these precautions are attended to, there is no danger to the healthy in the ordinary intercourse of the family or society.

"It will be observed that the whole plan of treatment as before stated, is based upon what is generally accepted as the most rational method for the relief of this dread disease—viz., fresh air and sunlight in abundance, good food, plenty of sleep, regulated exercise, all as far as possible under the circumstances, and attention to the small things of daily life which are known to influence nutrition favorably. The only novelty is its application to dispensary practice; to a class of people who otherwise would receive practically no systematic treatment or instruction at all.

"Some of my friends predicted that patients would not go to a dispensary twice a day or if they did for a few weeks, they would finally grow tired, and either stop coming altogether or, at best, go irregularly. Our experience proves this to be untrue. I never knew a patient voluntarily to give up the treatment or fail to report regularly. Our only difficulty in this respect has been in sending away those patients who after a preliminary trial have proved hopelessly diseased. This is always an unpleasant time for us and the patients, as they invariably wish to continue the treatment.

"It must be obvious that the coming of the patients to the dispensary twice each day gives the doctor and nurse an opportunity to educate them how best to live according to their means. They come ostensibly only to drink digested fats, but in reality, in addition, to be cross-examined, to have faults of living corrected, to receive cathartics—in short, to be taught the lesson of fresh air and wholesome food, and how to make the most of them. The freedom from reserve that comes from such constant association, covering months of time, gives an opportunity to acomplish such results in this direction as are impossible outside a sanatorium. The larger part of this work falls upon the nurse, but it is easily within the capacity of any one having the necessary interest, tact, and patience.

"The morning hour the patients call, drink their digested fats, hurry to work. But in the evening the day's work over, they sit, talk, sip their hot drink, and seemingly enjoy it as a sort of social relaxation.

"The treatment is a long one at best, extending over months, and often the most enthusiastic grow weary and a little discouraged. This is true particularly of those who make decided gains at first, and then for a few weeks either only hold their advantage, often owing to the development of new spots of infection, or progress very slowly. To these the daily support of the doctor and nurse and the encouragement from those who are nearly well is helpful.

"All patients are weighed and examined and notes made of their condition on Sunday morning from nine to ten o'clock. Sunday was selected for this work because for the majority it is not a workday, and they therefore lose no time. The men are weighed naked, the women in night dresses. Regular weighing is important for several reasons: it serves as a measure of the patient's general progress and a spur for greater effort, and it enables the doctor, in case of loss and the absence of a reasonable explanation in the condition of the chest, to question the faithfulness of the particular patient in carrying out instructions.

"It should be remembered that these people earn small wages. While many of them could ordinarily pay an occasional small fee to a physician, it would be out of the question for them to pay fees, however small, covering a long period. The outlay in fees, if at all possible, would certainly cause a shortage in proper food and clothes. Many are married and have families, and others, though unmarried, have some one dependent upon them for support. In order to live they must therefore labor uninterruptedly. Under present conditions systematic treatment is a luxury which they can not afford. If they are to be treated at all, it must be done during the hours before and after work. These hours range from 7 or 8 A. M. to 6 P. M. How can such people seek treatment at the ordinary dispensary, the doors of which do not open until after nine o'clock in the morning and are closed before six o'clock at night? Every time they go to such a place means perhaps the loss of a half-day's work, and to some the loss of their positions.

"It is fair to say, in conclusion, that this article is not inspired by a desire to further the interests of the Post-graduate Dispensary or the preparation which bears my name, but solely in the interest of the particular class of consumptives described. Any movement looking to this end should come through medical men. It is distinctly their burden. If physicians are satisfied that the results so far obtained warrant the extension of this plan to the present organized dispensaries of the city and form classes for this purpose, I shall feel amply rewarded for my labor of the past two years. If they wish to pursue these investigations further, and will send patients to me at the Post-graduate Dispensary, I am willing and glad to go on. If they decide that the general plan is worthy of adoption, but that the use of digested fats is unnecessery—that the same or better results may be obtained from the use of undigested fat or other means—I shall feel that this is a great step in advance of present methods, since the administration of this preparation forms but one feature of the plan. But in all candor I must say that with me it is no longer a matter of speculation, but conviction, that the use of fat is essential, and that the average consumptive is unable to digest it in sufficient quantity unaided. The responsibility of deciding such matters rests with physicians.

"Briefly summarized, I have attempted to show:

"1. That a large number of poor people suffering with pulmonary tuberculosis in a curable condition can not go to sanatoria for treatment.

"2. That dispensary treatment is practicable, successful, and comparatively inexpensive.

"3. That curable pulmonary tuberculosis by dispensary treatment is confined to the early stage.

"4. That without organized effort such cases are difficult to attract for treatment, owing largely to ignorance of the disease and a belief that it is incurable.

"5. That the treatment covers a long period and patients require daily supervision.

"6. That the majority of dispensaries at present make no adequate provision for such treatment.

"7. That it is the duty of such dispensaries to organize classes for this purpose.

"The advantages to be derived from the general adoption of the plan of treatment outlined are as follows:

"Many are cured.

"All are benefited.

"All are educated and made capable of protecting and teaching others.

"All, laboring and idle alike, can come for treatment.

"In the end it will break down the deep-rooted belief that pulmonary tuberculosis in all stages or any stage is incurable and lead to the application for relief early in the disease."

PRESERVATION OF RUBBER ARTICLES

Professor Krolikowski publishes the results of extensive tests which show that the best method of keeping rubber articles is in a 1 per cent solution of formol or zinc chlorid or a concentrated solution of boric acid. Red rubber keeps better than black, he asserts, other conditions equal. Rubber articles, he adds, should never be left exposed to the air or the action of cold. —Jour. A. M. A.

SHOCK AND ITS SURGICAL SIGNIFICANCE.

J. H. Rishmiller, Minneapolis (N. Y. Medical Jour., March 10th and 17th, 1900,) summarizes the conclusions reached in a discussion of this subject:

1. Sensory nerve irritation sufficiently powerful to produce exhaustion of the vaso-motor centre causes a reflex paralysis and consequently a dilitation of the vascular mechanism.
2. Children and aged people with lax fibres and those addicted to alcohol bear a peculiar susceptibility to shock.
3. Hemorrhage is the most pronounced cause, particularly venous, as then the equilibrium of the vaso-motor mechanism is too suddenly deranged.
4. Two distinct types are recognized; prostration with indifference, and prostration with excitement.
5. Peritoneal absorbtion of sepsis invariably terminates fatally through shock before evident manifestations of peritonitis have developed.
6. A subnormal temperature, irregular pulse, superficial respiration, cold and anaemic extremities and clammy perspiration, contra-indicate an operation.
7. The severity of operative shock largely depends upon the length of time in its performance, and the duration and degree of the anaesthesia.
8. Shock may to a large degree be prevented by any counter-irritation applied to the extremities,
9. Brandy per orem and morphine subcutaneously before operating are imperative precautions towards prophylaxis.
10. The main treatment consists in stimulating the vascular system, preserving the animal heat and supplying artificial heat to the body.
11. In acute hemorrhage or other excessive anaemia an effusion of normal saline solution is prudently indicated.

TO CONTROL HIGH TEMPERATURES.

Dr. C. C. Booth (Phil. Med. Jour.) suggests the folowing method of reducing a high temperature: "The patient is stripped entirely of all clothing, placed upon rubber sheet and covered with one thickness of a piece of cheese-cloth two yards long and the usual width, one end having been split so that each leg can be covered separately. A nurse is directed to squeeze water at about the temperature of the body from a sponge over the entire anterior surface of the body, and to wet the gauze freely as often as necessary to supply the water for evaporation. A case of typhoid fever with persistent high temperature is reported in which this method was used. From the beginning of treatment the pulse, nervous system, temperature, strength, and every symptom rapidly improved. The idea originated upon observing the depression of the wet bulb of a wet and dry bulb hygrometer caused by the evaporation of the water from the gauze, which is applied tightly to the bulb containing the mercury. All that is claimed for this method is that it is more convenient, more easily applied, less dangerous, cheaper and pleasanter to the patient than any other method. The gauze is to be kept wet until the temperature is reduced to normal."

AN ELOQUENT TRIBUTE.

"When I consider what the education of a doctor entails, what endless study and investigation, what patient labor; when I reflect upon the continual risk that he must take, the continued self-control that he must have, balanced by continual compassion; when I remember how he is ever contending in a face-to-face and hand-to-hand encounter with disease and death, I think that he should be an industrious and thoughtful, brave and noble gentleman. To the invalid he is more. He is the master mechanic of what may be a troublesome machine. He is the autocrat of the table and of the lodging, of raiment and exercise. His advent is the advent of the day. His utterances are oracular, his nod Olympian. His learning is boundless, his wit irresistable, his goodness not to be disputed. He takes the responsibility of lifting the burden off of shoulders which tremble beneath it, assumes the battle with pain, and fights the sick man's duel for him. He condones the cowardice of shrinking nerves and puts them to sleep. He encourages, stimulates and bolsters the suffering into shape again. There is no relationship on earth like this between doctor and patient. He owns me, owns at least this arm he set when I was a boy, and these lungs whose every wheeze and sputter he recognizes as I do the voice of a familiar acquaintance. The mother who bore me has not so intimate a knowledge of my peculiarities, my penchants and antipathies; no friend, however faithful, is so tolerant of my faults or has such an easy way of curing them. He reconciles me to myself by a quieting powder, and starts me fair with the world once more.—A. B. Ward in Scribner.

PREVENTION OF DEATH FROM CHLOROFORM.

In France, when a patient is under chloroform, on the slightest symptoms appearing of failure of the heart, they turn him nearly upside down—that is, with his head downward and his heels in the air. This, they say, always restores him; and such is their faith in the efficacy of this method that the operating tables in the Paris hospitals are made so that in an instant they can be elevated with one end in the air, so as to bring the patient into a position resembling that of standing on his head.—London Health.

A girl went into the shop of a Brisbane chemist and wanted a toothbrush and "would he please give her a hard one, as there were six in the family?"—Chemist and Druggist.

Book Notices.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX. A work of Reference for Medical Practitioners. Contributors: F. A. Burrall, M. D., Jas. Cantlie, M. A., M. B., F. R. C. S., Prof. A. H. Carter, M. D., F. R. C. P., Prof. Hy. D. Chapin, M. A., M. D., William A. Purrington, A. B., LL. M., R. J. Coulter, M. B., F. R. C. S. I., F. Richardson Cross, M. B., F. R. C. S., R. M. Fenn, M. B., C. M., E. Hurry Fenwick, F. R. C. S., T. Colcott Fox., B. A., F. R. C. P., Samuel G. Gant, M. D., H. Bellamy Gardner, M. R. C. S., A. E. Giles, B. Sc., M. D., F. R. C. S., Edward W. Goodall, M. D., J. Dundas Grant, M. A., M. D., Prof. G. M. Hammond, A. M., M. D., Lt.Col. W. Keith Hatch, F. R. C. S., G. A. Hawkins-Ambler, F. R. C. S., Robert Jones, F. R. C. S., Priestley Leech, M. D., F. R. C. S., Prof. Henry P. Loomis, M. D., Thos. More-Madden, M. A., F. R. C. S., Prof. Joseph McFarland, M. D., Chas. F. Marshall, M. D., F. R. C. S., Wm. Milligan, M. D., Keith W. Monsarrat, F. R. C. S., G. Lane Mullins, M. A., M. D., Wm. Murrell, M. D., F. R. C. P., J. E. Platt, M. S., M. D., F. R. C. S., Jos. Priestley, B. A., M. D., D. P. H., Boardman Reed, M. D., Prof. A. W. Mayo Robson, F. R. C. S., Major Ronald Ross, M. R. C. S., I. M. S., Prof. Robt. Sundby, M. D., F. R. C. P., James Shaw, M. D., Walter G. Spencer, F. R. C. S., Prof. W. Gilman Thompson, M. D., A. H. Tubby, M. S., M. B., Joseph G. Turner, F. R. C. S., L. D. S., P. Watson Williams, M. D., E. Norris Wolfenden, M. D., B. A. 1900. Eighteenth year. New York, E. B. Treat & Co., 241-243 West 23rd St.; Chicago, 199 Clark St. Price $3.00.

The present volume of The International Medical Annual brings together a series of articles which cover as nearly as possible the whole range of medicine and surgery, making it an up-to-date compendium for the busy practitioner. Its "Synoptical Index" will be found most useful.

ELEMENTS OF CLINICAL BACTERIOLOGY, for Physicians and Students. By Dr. Ernst Sevy, Professor in the University of Strasburg, and Dr. Felix Klempener, Private Docent in the University of Strasburg. Translated by Augustus A. Eshner, M. D., Professor of Clinical Medicine in the Philadelphia Policlinic; Physician to the Philadelphia Hospital, etc. Published by W. B. Saunders, Philadelphia. Price $2.50, net.

The author states in the preface "This work represents an attempt to grasp the results of bacteriological investigation from a clinical point of view." This idea is thoroughly carried out. But little attention is given to the purely theoretical, and but little could be added to the practical. It is a work that will appeal to the general practitioner, in that it gives in detail the exact way to collect material for bacteriological examination, and tells how these tests should be made. Aside from being a mere laboratory guide, it has other valuable features—for instance, the tenacity of many of the germs is given, together with the amount of chemical and physical agent they can withstand. This, in connection with the chapter on disinfection, is of immense practical value. The work is clearly illustrated and contains 450 pages.

ESSENTIALS OF DIAGNOSIS. Saunders' Question Compends, No. 17. Arranged in the form of Questions and Answers, prepared especially for students of Medicine. By Solomon Solis-Cohen, M. D., Prof. of Clinical Medicine and Therapeutics in the Philadelphia Policlinic; Lecturer on Clinical Medicine in Jefferson Medical College; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumptives, etc., and Augustus A. Eshner, M. D., Prof. of Clinical Medicine in the Philadelphia Policlinic; Physician to the Philadelphia Hospital, etc. Illustrated. Second edition, revised and enlarged. Philadelphia: W. B. Saunders, 925 Walnut St., 1900. Price, $1.00.

This little volume is of course elementary in character, though in scope it treats the subject so thoroughly that many practitioners will find it convenient for quick reference. Being stript of details it has especial advantages to students for whom it is designed. This edition has been thoroughly revised from the first edition, and much new matter has been added.

BICYCLIC OBSTETRICAL CALENDER. A novel and handy ready-reference for physicians, handsomely printed in two colors on card convenient for vest pocket. Sent free on request by the publishers, Norwich Pharmacal Co., Norwich, N.Y.

A very convenient card.

A GREAT NEUROLOGIST.

The following story is told of "The Greatest Neurologist of the Day," whose home, it is added, is in Philadelphia. A very wealthy bedridden case of two years' standing, was brought to his private hospital for treatment. The case was one of false neurasthenia. On her absolute refusal to leave her bed under any circumstances, the eminent scientist threw a lighted newspaper under her bed and told her to burn up and be d——d. She left the hospital cured in six weeks. —Charlotte Med. Jour.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, JULY, 1900. No. 8.

Original Articles.

*THE RELATION OF CHEMISTRY TO MEDICAL SCIENCE.

By Charles W. Drew, M.D., Ph. B., Prof. of Chemistry and Toxicology, Hamline University, Medical Department.

To the intelligent, broad-minded and progressive student, the science and art of medicine to-day offers a field for study, research and experiment so broad and comprehensive as to entail upon those who seek to acquire and maintain familiarity with it, in its important bearings and relations, a life of earnest and continuous labor. The too common conception of the physician as one simply qualified by study and experience to minister to the ills to which the flesh is heir, and whose chief vocation is to prescribe for recognized types of disease viewed as entities, is grossly unjust to the ideal student of the science of medicine. The ideal physician recognizes in the science and art of medicine a far broader field, and fully realizes that while this constitutes an important part of his daily life, that the fullest conception of his opportunities and responsibilities entails upon him a constant effort to elevate and improve the conditions under which men live, to earnestly strive to forestall and prevent disease, and to employ every known means to render inactive and eradicate those causative influences, which, unrecognized, would lead to derangements of health and perhaps to death itself. All these require the broadest knowledge of man himself and his environment; of the structure and functions of the tissues and organs which, collectively, constitute the human body; of the processes essential to the maintenance of life, and to the nutrition, growth and development of the body; of the necessary relations and interdependence of man upon the other and lower orders of creation; of the alterations in structure and function which are characteristic of deviations from health and of the causes which operate to produce them; of the measures which may be adopted to recognize such deviations and to forestall and prevent them, or, if already existent, to remove them, and, if possible, restore the body to its normal state, and, if this is not possible, to mitigate the sufferings and minister in the most effective manner to those whom it is beyond the power of the physician to restore to health.

What we term the science of medicine is not a branch of science in the accepted sense of the term. It is a composite of portions of many sciences, each contributing its part to constitute the aggregate and important whole. As a result, the ideal physician, in order to comprehend the importance and utility of these various contributions, must possess a knowledge of the principles of these correlated sciences, and must be able to personally apply these principles in his studies and investigations. That physician who fails to recognize and appreciate the important relations sustained to the development of medicine by physics, chemistry, botany, microscopy, bacteriology, pharmacology and other branches of science, immeasureably limits his knowledge, his opportunities and his conception of the scope of his chosen field of labor.

To trace in detail the relation of all of these sciences to medicine is impossible, but to present some of the relations of one of the most important of these, namely, the science of chemistry, to the science of medicine and to the common life of man is possible, interesting and instructive.

The history of the development of any science is of great interest, but none, I believe, is so full of interest, so replete with the most wonderful vagaries which ever dawned upon the mind of man, so permeated with mysticism, superstition and selfishness as is the history of the origin and development of the science of chemistry.

Within the domain of secular history we find that the first evidences of knowledge of the arts allied to chemistry comes from Egypt. Many of their rude hieroglyphics upon obelisk and pyramid have been interpreted as referring to the mystic processes incident to their labors upon the branch which we now term chemistry. Yet, instead of endeavoring to apply such knowledge to the elevation of mankind, the arts were degraded and allowed to degenerate into the occult and hidden mysteries of the necromancer and priest, and were by them employed to delude their subjects and to weld more firmly the heavy links of the chain with which they were held in bondage by their spiritual oppressors. Indeed, the most generally accepted derivation of the word chemistry is the Coptic chems or Arabic

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*Address delivered at graduating exercises of the medical class June 6, 1900.

chema, both of which signify black in the sense of occult or hidden; hence, there can be little doubt but what the seed from which this science sprung was the veritable black-art of the ancient Egyptians. A knowledge of these arts spread into Arabia, and, in the hands of the Arabian scholars, gradually underwent a considerable development, it even being asserted that the first written treatise pertaining to chemistry of which there is any record was produced by the Arabian Geber or Gaba in the Eighth century B. C.

Through the Arabian invaders of southern Europe and northern Africa the knowledge which they possessed became widely spread, and the black-art of the Egyptian and Arabian necromancer gradually developed into the weird and mystical science of alchemy. The pursuit of this science rapidly overspread all Europe, and strange as it may seem, formed for more than ten centuries the leading study of the civilized world. During this period, unnumbered thousands of men of all classes, from the artizan in his shop and the monk in his cloister to the sovereign upon his throne, devoted their energies and their lives to the study of the laws which were supposed to govern the transmutation of the metals. Another object of their search was the Philosopher's Stone, a mythical jewel which was believed to act as the elixir of life. It is indeed a source of sadness to all humanitarians that for more than a thousand years the flower of civilization should have thus wasted and misspent their energies in a vain and delusive search for a royal road to wealth and for the power of defying the fiat of the Almighty, that every living thing must die. It would seem to the enlightened intellect of the present day that the pursuit of such palpable impossibilities was almost incredible, but alas! the pages of history teem with evidences of the superstitious credulity of the past, and with the records of misdirected energies, which, rightly applied, might have well-nigh accomplished miracles in advancing civilization and elevating the human race.

During this period much of importance was deduced from the not altogether fruitless labors of the votaries of this mystic art, and many, too, were the vagaries which were incorporated with the heterogeneous mass of knowledge to which the name of chemistry was applied. Many of the substances which we recognize and study were discovered and described, yet, so indefinitely and with such a cloud of false deductions from fallacious theories, that the real progress of the science was anything but rapid.

From the teachings of Paracelsus had been developed the idea that the true province of chemistry was the adaptation of chemical substances to the cure of disease in the practice of medicine, and this was the dominant idea for a time in the minds of many. It remained, however, for the more modern scientists of the Eighteenth and Nineteenth centuries to elucidate the mysteries of the composition of matter, to apply the gradually developed principles of analysis and synthesis, to dissipate the vagaries of the ancients, and to demonstrate conclusively that the proper mission of chemistry is not to serve as a cloak for necromancy and chicanery, nor as a means of enriching its selfish votaries with unearned gold, or the power of overcoming age and death, nor, even solely, to furnish to the science of medicine its varied compounds, so potent in the alleviation of suffering, so valuable in the combat with disease and death. It remained for Priestley, Scheele, Lavosier, Faraday, Dalton, and numberless others to carve their names high upon the pinnacle of fame, and to demonstrate that such is the expansiveness and adaptability of chemistry that it not only fulfills the latter of these purposes, but multitudes of others as well, which entitle it to consideration as a powerful aid to civilization.

The rank of the chemistry of to-day is no uncertain one; its garb of mysticism has been outgrown and discarded; and it stands forth as the recognized ally and abettor of nearly every industrial art, and with constantly increasing fields of application. Nor is it to the domain of industry alone that it belongs; it interests itself in everything within the universe; it expands until it comprehends within its field of study the nature and composition of the distant sun, and yet more distant stars, and again contracts its domain to the study of the apparently trivial events which are constantly occurring in the most ordinary walks of life.

It seems to be the popular idea that the science of chemistry has to deal, simply and entirely, with subjects beyond the comprehension of the ordinary mind, and solely within the field of the scientist. It is with a view of controverting this prevalent error that I introduce the subject; with a view of demonstrating that some of the most useful and beautiful exemplifications of the application of chemical knowledge lie, not among the intricate and seemingly impractical fields of labor of the professional chemist, but, rather, surround us on every hand and form an important part of our daily life. But, while the scope of the science of chemistry is so extensive as to be almost boundless, its domain is seemingly within the narrowest limits, since it deals entirely with the imponderable atoms and molecules which can neither be appreciated by the unaided senses, or brought within our recognition by the aid of physical appliances.

To the student of chemistry, all that is material within the universe, so far as he has any knowledge of it, consists of one or more of about seventy-four substances which have thus far defied all efforts at farther simplification, and which he terms elementary bodies or chemical elements. To trace the tiny atoms of these elementary bodies through their ever-changing combinations, and, to explain the associated phenomena and governing laws, is the province of chemistry; and, the more one contemplates their complexity and beauty the more deeply he must feel the truth of the proverb, "Deus magnus est in maximis, maximus autem in minimis." (God is great in great things but greatest of all in the littlest things.)

The common life of man is full of wonders, both chemical and physiological, and in their detailed consideration it is impossible to separate the one from the other. Most of us pass through our earthly existence without seeing or being sensible of them, though every day and every hour our luxuries, our comforts, nay our very existence, ought to recall them to our minds and lead us to devoutly thank the all-wise Author of our being for the wonders and beauties which in His infinite power and goodness he causes to be displayed. Do we with observant eye gaze about us, dwelling upon the varying expanse of nature and seeking a knowledge of her secret processes, we cannot fail to be impressed as was our beloved Bryant when he penned the opening lines of his beautiful Thanatopsis:

"To him who in the love of nature holds
Communion with her visible forms, she speaks
A various language; for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And healing sympathy that steals away
Their sharpness ere he is aware:"

and to the student who earnestly studies and attentively observes, these ever present voices of nature discourse in words as fraught with interest, as grand and as poetic as ever fell from human tongue.

This abode of ours, which we call the earth, tiny in comparison with some of the distant worlds, hangs suspended in infinite space and continually moves in obedience to great Nature's laws. Its diurnal revolutions upon its axis give to us our sunny day and our starry or moon-lit night; its annual revolution about the sun, gives to us our varying seasons, the ever-succeeding warmth of genial summer and cold of frigid winter. With the general character and appearance of the surface of the earth, its almost boundless expanse of ocean, its surrounding envelope of atmosphere, its broadly stretching prairies, its towering mountains, its extensive forests, its rushing rivers, its profusion of all forms of animal and vegetable life, its modest villages and its bustling cities, you are all familiar. But that the maintenance of these conditions is to be traced to the subtle and all-pervading influence of chemical transformations, and that the science of chemistry goes further than any other toward explaining the mysteries of animate existence, the operations by which life is fostered and maintained, and the correlation existing between the lower and higher forms of life, is understood by few. To trace the relations of chemistry to all of these would require a much longer time than is at our disposal and at this time I must limit myself to a brief presentation of the relations which it sustains to the life and health of mankind and to the evidences of his correlation to the lower orders of creation.

Before passing to the consideration of these subjects, however, it may not be amiss to briefly consider the chemistry of the human body. When we in the abstract consider man in his relations to the other and lower forms of life, we would fain exclaim with Hamlet, "What a piece of work is a man! How noble in reason! How infinite in faculties; in form and moving how express and admirable, in action how like an angel, in apprehension how like a God! the beauty of the world, the paragon of animals!" But when we turn the impartial light of scientific investigation upon this reigning monarch of creation, and examine in the concrete his relations to the lower forms of life, we cannot fail to perceive how slavishly dependent this paragon is upon that which he may affect to ignore or despise.

The wonders of an animal body are beyond comprehension, and the wonders of the human body, in which we find, more wonderful than all else, the intellectual faculties, capable of an almost infinite development, and the incontrovertible evidences of the possession of an immortal part or soul, render its study of a most absorbing interest. But, while the study of man from the standpoint of the psychologist or metaphysician would present great interest, and while investigators from the point of view of the anatomist would solve many problems of a more gross and mechanical nature, we shall only attempt a brief study from the standpoint of the chemical physiologist, and shall disregard and pass by all else.

When we stand beside a complicated piece of mechanism and see with what absolute and wonderful exactness part has been fitted to part: how this wheel is made to impart motion to that, and that in turn to another, until the entire mechanical mass is in motion, we pause in wonder. When we pause for a moment to consider the mechanism of the human body, in which each separate organism may be likened to a wonderfully intricate piece of machinery, and realize how, without cessation, from birth till death, these are all continually in operation, under the influence of that vital force of which we appreciate the existence so fully, and yet of the nature of which we know so little, we can scarcely fail to be amazed. We can rightfully liken the human body to an immense establishment deriving its motive power from a single source; in which the most diverse and varied industries are being carried on, without the slightest interference; and, yet, in which the most trivial accident may produce a partial or entire derangement of this harmonious action.

As the factory is supplied with elaborate machinery, perfectly adjusted and adapted to the production of certain desirable products, so is the body supplied with numerous and varied organs each of which is expressly adapted to the performance of some special labor which the well-being of the system as a whole requires should be performed. In the natural state all of these organs carry out their various functions in harmony and the result is a condition of health and vigor, at other times the proper balance is lost and the natural healthy state is succeeded by a condition of impaired vigor or disease, or terminated by death. Until the science of chemistry had become thoroughly understood and the body and its functions had been studied from the standpoint of the chemist, we were almost entirely ignorant of the nature of the products of life activity and of the details of their production. At the present time we are fully aware that the processes which the various organs are ceaselessly carrying on are in large part chemical processes, and many of them of essentially the same character, as are frequently observed outside of the body, while others are as distinctly chemical yet are modified to such a degree by the attendant vital conditions that we are unable to trace the various stages of the processes or to explain their occurrence. We may without exaggeration regard the human body as an immense chemical laboratory in which by the most complicated and unexplainable processes the most diverse products are constantly being produced to meet the needs of the economy, while at the same time the useless and noxious substances are being destroyed or eliminated lest their presence engender disease.

A chemical analysis of the human body would demonstrate that, despite its indisputable mechanical complexity, it was, when viewed from an absolutely chemical standpoint, composed of only thirteen elementary substances in numerous and varied forms of combination. Of these compounds more than one-hundred are well known and many more are still under investigation.

The functions of the body which are constantly being carried on during life are, mainly, for the purpose of converting the varied constituents or our food and drink into the highly organized tissues of the body, to provide for growth and development; for the repair of waste tissues; and for the generation of heat and vital force. These processes are mainly chemical in their nature, and are intimately associated with the subject of the chemistry of the air, of water and of foods.

All realize that the performance of the respiratory function and the ingestion of food and drink are essentially necessary to the maintenance of life. At the instant of birth the first of these becomes established, and within a few hours the others, also, and so long as life continues they are maintained. If they be not established, that which has the semblance of life is really inanimate, and if for any reason they cease to be performed the individual ceases to exist as a part of the animate creation.

Breathing we understand to be the drawing in of the atmospheric air through the air-passages into the lungs and after a brief period expelling it again, the processes of inspiration and expiration following each other involuntarily and rythmically. This air which we breathe, chemistry teaches us is made up of a mixture of four chief and constant constituents, viz.: oxygen about 20 per cent; nitrogen about 80 per cent; carbonic acid gas about 3 to 4 hundredths of one per cent; and watery vapor in variable proportion; together with variable amounts of accidental constituents or impurities; each of which sustains an important relation to its essential constitution, and performs a most beautiful and appropriate part in relation to one or another domain of vegetative nature.

In order to appreciate the benefit derived by man and other animals from breathing we must consider the effect upon the composition of the expired air. Examination would show that as a result of breathing, the respired air lost about 5 per cent of its oxygen, which amount would for a man be equivalent to a little over a pound daily. Of this, probably one-fifth is retained as a body constituent while four-fifths is breathed out almost at once in another form. Instead of .04 per cent of carbonic acid we should find nearly four per cent, and a largely increased proportion of watery vapor.

Such is the function of respiration, considered in itself and in the influence which it exerts upon the composition of the atmosphere which surrounds us. But for what end does man breathe, what good follows to himself or what useful purpose is served in external nature by this function and by the changes which it induces?

We have seen that the oxygen which is removed from the atmosphere by an adult man amounts to about a pound daily. This enters into the circulation of the body and as it is all that is removed from the air it must be concerned in the performance of functions of the greatest and most vital importance. These functions are of a two-fold nature: firstly, it furnishes by means of its essential chemical properties the necessary material and conditions requisite to the transformation of the food which has been digested, absorbed and assimilated, into such a form that it is capable of serving to reconstruct the wasting tissues of the body and thus to maintain the equilibrium of disintegration and repair which is essential to health; and, secondly, it serves to oxidize or burn the excess of nutrient material to maintain the necessary heat and vital energy of the body.

Another purpose served by respiration is the bearing away of those effete matters, principally water and carbonic acid gas, which have been produced within the tissues by processes of oxidation and as a result of vital waste, into the external air, thus ridding the economy of that which is no longer useful and which if it were allowed to accumulate would speedily cause disease and death.

These processes of assimilation and combustion, as just described, are essentially chemical in their nature and are naturally attended by the phenomena incident to chemical action. If we cause starch or sugar or fat to unite with the oxygen of the atmosphere, or in other words cause them to burn, we shall find as the products water and carbonic acid gas. But in addition we shall perceive the development of light and a large amount of heat. Now when these changes take place within the body in the same manner great heat is produced. We all know that whether the air be that of the balmy summer or partake of the frigidity of winter, the thermometer indicates essentially the same temperature for the interior of the body. This condition can only exist as the result of extensive and constant heat-production and distribution. The wonderful provision which has been made to facilitate the production and transmission of this bodily heat and the materials necessary to the maintenance of vital energy is well seen when we consider the mechanism of the heart and blood-vessels, which ceaselessly propel the volume of blood to every portion of the organism and provide for its return. This constantly moving current of blood serves not only to remove from the inspired air the necessary oxygen which it bears to every tissue, but it also serves to collect and bear away from the place of their formation those effete matters which are produced by functional activity, and which are in part breathed forth into the air, and in part removed by the secreting structures of the body and discharged under one or another form.

Now a few words in regard to the necessity for food and its digestion. Food is necessary in order that the reparative processes may take place and the generation of the vital energy and heat requisite for continued existence be provided for; and it is equally apparent that the character of this food must be so modified by the chemical and vital processes of digestion that it shall be capable of absorption and assimilation as an integral part of the economy. We may consider the necessity in another light. The living man moves; as we gaze at him externally he is never wholly at rest. Could we gaze into any part of his interior we should find that he was everywhere and always in motion. Even when sunk in most quiet slumber there is scarcely an organ which is not in ceaseless motion. Every movement of the arm, every involuntary pulsation of the heart, every fragmentary thought which passes through the brain is accompanied by a certain amount of disintegration of tissue at the particular spot at which the action takes place. A portion of the substance of the muscle, or bone, or brain, of the substance of the blood itself, becomes chemically changed and is rendered unfit to perform the part it had performed as a portion of the perfect body, and is removed by the current of blood and eliminated from the body, its former place being filled by new material furnished by the processes of digestion and assimilation.

Not less important than the food which we eat and the air which we breathe is the water which we drink. We find it permeating and forming part of every tissue of the body without exception, and constituting about three-fourths of its entire weight. It constitutes nearly the entire bulk of the fluids of the body and serves to hold in solution the various necessary substances which these fluids contain, and to maintain their proper density and the consistence and character of the solid tissues.

Having examined the relations of food, air and water to animal life, let us briefly consider the importance wrought in the atmosphere by man's breathing as regards his continued existence and especially as regards external nature. As to these changes in their relation to man, we know that were these effete matters, the principal of which is carbonic acid, to be allowed to accumulate, only a short time would elapse before the atmosphere would become, by reason of such contamination, utterly unfitted for the respiration of animals, or to support animal life.

In order to fully comprehend the relation which exists between these atmospheric changes and external nature, we must realize, difficult though it be, that the animal is not an independent part of the works of nature; that man, as the typical animal, is in many respects interdependent upon both the vegetable and mineral kingdoms. This is well shown by the fact that the animal feeds and grows and lives upon either other animals or vegetables, or both, and that deprived of these he will speedily die, since unable to elaborate the needed subsistence from the elements, himself.

It is within the vegetable kingdom alone that we find the power of building up from their constituent elements of the inorganic world those substances which are capable of sustaining animal life, and hence were vegetation to be abolished animal life must speedily cease for lack of appropriate nutriment. Chemistry opens to our understanding much that is interesting in connection with the nutrition and growth of plants and emphasizes still more forcibly the infinite wisdom of the Creator when He ordained that the waste products of the animal body, constantly returned to the air and the earth shall as constantly be appropriated and changed by the plant to support its own life and growth. It is thus that the carbonic acid gas which animals breathe out is removed from the air which is thus purified and fitted for their further use, while at the same time the plant has appropriated from it the carbon so necessary to its own life and growth.

When we consider in review that the chief sources of carbonic acid gas in the atmosphere are the burning or decay of organic matters and the respiration of animals, and that while its presence in the air in any considerable proportion renders it incapable of supporting animal life, it is essential to the existence of plant life and is constantly being removed from the air by them, we must see very plainly that animal and vegetable life are correlated. While the circle of natural operations in the animal is complete in itself, and the animal seems to be working for itself alone, it is all the while unconsciously benefitting an entirely different order of existence external to itself. On its restless activity its own life depends, but this life itself is only a part of a larger circle of operations in which all material things obediently revolve in the fulfilment of a divine purpose. Thus, the breathing of man has an internal and an external end; within, it oxidizes and warms the body, gives it energy and motion and renews and purifies its parts; without, it contributes to the maintenance of the whole system of animate nature. To man as a mere living animal, the former end is the more immediately interesting and important; to man as a philosophic observer of nature the latter is not only the grander of the two but also the more morally and intellectually beautiful.

But time precludes the more elaborate discussion of my theme; we can, at this time, but glance at its bounding walls, though perhaps in the future some of you may have opportunity to graze further upon its many beautiful fields and to elaborate from them the captivating lessons in which they so richly abound.

It only remains at this time to consider some few facts in regard to that circulation which all matter is undergoing to render still more evident the importance and the interesting character of the chemistry of life, and to enable us to trace some few of the many poetic and ethical bearings of the subject, which, when duly appreciated, cannot fail to inspire us with sublime conceptions and fuller realizations of the infinite wisdom of the Creator, at whose bidding the universe sprange into existence, and under whose supreme authority its component worlds obediently revolve.

We are taught that the world moves in its orbit, in obedience to that system of laws which preside over and govern the movements of the universe. We are accustomd to think of the earth as whirling through space with an almost incredible velocity; and yet we never think of the movements of the tiny atoms and molecules of which all created things are made up as being constant. We never pause to consider that these too, are circulating, as we might say, in their tiny orbits in as strict obedience to the immutable laws of chemical affinity. In our busy life it rarely, if ever,. occurs to us that the Creator, in the words of Pope,

"Builds life on death, on change duration founds." and that a portion of that matter which to-day forms a part of the soil upon which we tread, or the air which we breathe, may next week be incorporated as a part of the plant or animal which we eat, and from this may ascend another step and become an integral part of our own body. But, having attained this most perfect form the restless atoms soon grow weary, so to speak, of their new dignity, and are subject to other changes which condemn them to again pass forth as a part of the inorganic world.

Yet such, owing to the changeful nature of all things in which,

"All the forms are fugitive,
Though the substances survive,"

is nevertheless the case. Such are the changeful experiences of all life, viewed from a chemical standpoint, from the beginning of existence until we are called upon by our Creator to lay down mortality and take up immortality. When this time comes, as we believe, that which is beyond the ken of chemist or of physicist returns to the God who gave it, while these frail, material bodies of ours are returned to our mother earth; there to undergo those transformatory changes which shall best fit their constituent elements to assume their appointed places and to fulfil their appointed parts in that ever succeeding circulation of material things in which all are ordained to participate until such time as in response to the fiat of the Almighty, at whose bidding the universe was evolved from nothingness,

"The cloud-capped towers, the gorgeous palaces,
The solemn temples, the great globe itself,
Yea, all which it inherit, shall dissolve,
And like an insubstantial pageant faded
Leave not a trace behind."

PREVENTION OF MOULD.

Collections of microscopic material kept in damp places, or in a moist atmosphere, are very liable to mould, and under such conditions it is difficult to avoid this evil. Carbolic acid is recommended, but Mr. Ashmead, who has kept a large collection in the moist climate of Florida, has found the use of napthaline much more satisfactory. Mr. H. H. Smith, who has had more extensive experience in the tropics, prefers the carbolic acid. Mouldy specimens may be cleaned by washing with carbolic acid applied with a fine camel's hair brush.—Popular Science.

Post-partum hemorrhage has been treated successfully by saturating a piece of lint in turpentine and introducing it into the uterus. Contraction of the uterus soon took place, and the hemorrhage stopped.—Med. Summary.

Equal parts of glycerin and water, with sufficient lemon juice to make the mixture agreeable to taste, is an excellent mouth wash in fever cases.—Med. Summary.

*PHYSICIAN VS. MEDICINE PROPRIETORS AND MEDICINE PATENTEES.

By A. Ravogli, M. D., Cincinnati.

The modern physician has always been interested in the prescription of remedies, but the preparation of drugs and their compounds has been left in the hands of the pharmacist.

The physician, by careful study, by keen observation of his patients, by long and tedious experimentation, has found the pharmacological properties of the minerals, of the plants and of the animal products; the pharmacist has prepared the drugs, has extracted the active principles, and has compounded the different preparations, which have been distributed to the patients according to the physician's prescription. Physician and pharmacist have gone hand in hand, and the advancement of one has been the benefit of the other.

The separation of the physician and pharmacist was the result of the social evolution. In the olden times the medicine man was connected with the priesthood; the administration of drugs was combined with the prayers. When superstition and ignorance were somewhat lifted, when the causes of diseases were no longer the evil spirits which had taken possession of the diseased body, then the medical agency was separated from the ecclesiastical agency.

In consequence of the difficulty of preparation, in consequence of the daily progress of chemistry, it became necessary that the physician should be separated from the pharmacist, and the former should devote himself to the study of the action of the remedies and to their uses, and the latter to the study of the different pharmaceutical preparations.

As a consequence of social evolution pharmacy has made so great progress that the dispensing pharmacist no longer sufficed for the preparation of all the chemical products, so a division has taken place giving us a dispensing pharmacist (druggist), and a manufacturing pharmacist.

Some of the manufacturers are true pharmacists, some are nothing but merchants, who seeing some money in drugs have tried to take preparations away from the pharmacist simply for commercialism. Here we find ourselves in the presence of a great distinction between manufacturers. Some say: "Here is a new chemical compound of such an atomic combination that must have such and such properties." The others give a preparation, which although well prepared is only a reproduction of an old formula secured under the rights of a trade-mark with a different name.

It is not necessary to say that to the first class belong the highly scientific manufacturers; the second class is made up of money-making manufacturers, who find the field of medicine good for their commercial exploitation.

The social, the commercial and the scientific evolution has made it necessary to have factories limited to the preparation of different remedies, which could not be gotten up in an ordinary drug store without the help of steam machinery and other appliances.

Manufacturers have tried to secure protection for their productions so that no others could manufacture the same article, or at least put the same article on the market under the same name. Protection is afforded to them in two ways; by means of a trade-mark or by means of a patent.

It is the practice of many not to apply for patents for medical compounds, but in order to preserve the secret of the compound they sell the article under a trade-mark. This class of manufacturers I call medicine proprietors, for the reason that they do not possess any patent for any new invention or modification in the preparation of the remedy, but they put on the market some compound with a strange name, preserving the secret of its composition and preparation.

There is some difference in reference to the patent. Any person who has invented or discovered any new and useful art, etc., composition of matter, or any new and useful improvement thereof not known or used by others in this country, etc., may obtain a patent therefor. When a patent is granted for a composition of matter, the component parts thereof and the manner of making and using the same are disclosed to the public.

The only objection to the granting of a patent is that very little satisfies the patent office, and remedies without any value, probably harmful, have been patented and allowed to be sold to the ignorant laity. Old patents for medicines have been granted to any applicant, who never had any knowledge of medicine. For example, February 10, 1838, a patent was granted for a remedy for "Salt-Rheum—a new composition of matter as a remedy for Salt-Rheum and other Humors of a similar character." The mixture is absolutely ridiculous.

July 23, 1841, a patent was granted for the discovery of a new and useful compound to be used in the treatment of pox or syphilis, lues, gonorrhea, buboes, gleet and all other syphilitic diseases, and affections of any and every kind whatever, in males and females, also in the treatment of leucorrhea, whites or fluor albus in females. The ingredients are poke root, running brier, rattle weed, etc. These are samples of patented medicines.

In these last years, however, the applications for patents in medicinal compounds have improved greatly, especially in reference to the method of pharmaceutical preparations. The decision, however, whether the preparation

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*Read before the American Academy of Medicine in Atlantic City, June 2, 1900.

really new and useful discovery and really deserves to be protected for a certain period of time, ought to be left to the judicial body of the American Medical Association or to the American Pharmaceutical Association. These scientific bodies, either separate or in conjunction, ought to be the only bodies able to recommend a remedial article for a patent and protection. This is the method followed in France, where the National Academy of Medicine has full jurisdiction in this matter, and decides which medicinal preparations deserve to be protected.

By limitation of those patented medicines medical practice and society at large would derive great benefit. The laity in general has a great idea of patented medicines, believing them to be selected and rewarded by the government. They are so imbued with their superstitions and their errors that they cannot be changed; they are positive that they have impure blood, and they must go to a druggist and buy a bottle of blood purifier. Unfortunately, the druggist for the little profit connected with the sale of that blood purifier encourages the superstition of the patient, and the latter takes many bottles, without any advantage to himself but with good profits for the manufacturer. For the medical profession all these new names given to the same remedies cause great confusion, and have often been the cause of mistakes in prescribing and in dispensing the remedy. It is therefore desirable that these trade-marks be soon removed and be replaced with scientific names in the Pharmacopeia, so there may be no cause for mistakes.

In considering the proprietary remedies it is quite plain to be seen that the proprietors are very seldom pharmacists or chemists. These proprietors are usually men who have been connected with wholesale drug houses, or physicians who had never succeeded in obtaining a practice. The agents employed to introduce their goods to the medical profession usually call themselves "doctors" who having no practice took the position with this or that chemical company, to advertise and show the qualities, beauties and efficacy of those goods which they carry around to the physician's offices. Many of these products are accompanied with some literature, containing endorsements of medical men, and also some pamphlets written for the purpose of praising the virtues of the different preparations.

Manufacturers do not let the clinics and the hospitals escape, for they keep them generously supplied with those products. The young physician sees the director of the clinic give that bottle of tonic to a patient, notes the name of the remedy, and they unconsciously become agents of the manufacturers. In prescribing it is necessary to think, to determine the dose, etc.; in ordering an already prepared remedy there is much less work, and for this reason especially young physicians are the best agents for the sale of those compound remedies.

In the Patent Office we find Class 167, Medicines, which is divided into the following subclasses: Capsules, disinfectants, extracts, hair dyes and tonics, insecticides, internal remedies, plasters, tobacco substitutes, topical remedies, veterinary. This classification, if it is useful to the patent office, has no value to a physician.

Of the internal remedies, the preparations which are usually offered to the medical profession belong to

1st, reconstituents, nutrients and tonics.

2nd, digestive compounds.

3rd, purgatives in different forms.

4th, diuretics with special action upon the genito-urinary organs.

It seems that the dietetic preparations afford the most profit to the manufacturers. Some of them are articles of food having as their base milk which is combined with malt and other carbohydrate elements. This kind of food is claimed to be of immense value for infants and for patients affected with wasting diseases, invalids, etc.

Other compounds are emulsions, with a base of cod liver oil, so thick that they cannot come out of the bottle. They claim that the cod liver oil therein contained is disguised and is therefore rendered much more palatable.

Other productions with the base of digestive ferments constitute the so-called diastasis. Malt figures among the first active principles. These preparations are given as simple digestive elements, or some other remedies are combined with them. For instance, the old Churchill formula of the hypophosphites, with strychnia, quinia and iron. Every one of these compounds bears a peculiar name with a prefix like pepto- lacto- phospho- malto- under which it is registered as a trade name giving an idea of the composition of the remedy. In order to obtain the desired effect they must be taken in large quantities, and many bottles are required to see the result. After trying their patience and their faith in swallowing these remedies, the patients usually get tired, disgusted and refuse their further use.

In the line of purgatives there is a series of mineral waters, fluid extracts, pills of every description and name, so that it would be impossible to mention all.

The history is quite interesting of some patented remedies of this kind which have produced enormous fortunes. This shows that charlatanism today affords the same chances for a fortune as it did in the past centuries. In the Journal of the American Medical Association, special article (April 28th, 1900), the Relation of Pharmacy to the Medical Profession, two compounds are referred to, castoria and syrup of figs, which are nearly equal in their composition, the active principle being the senna. It was already known that senna treated with a weak alkali furnishes a preparation which, retaining its purgative properties, loses the griping qualities.

Both these preparations owe their value to the deresinized senna.

Another fortune was made through condurango, which was backed by the Bliss syndicate, under the assumption that it had cured of cancer the mother-in-law of Schuyler Colfax. Subsequent discoveries revealed it to be a bark without any special therapeutic efficacy.

Under different names a large quantity of thick compounded preparations are introduced as genito-urinary tonics. The most important ingredient is the ryzome of the agropyrum repens or couch grass, and of the saw palmetto. These are in the order of demulcent diuretics and in cases of cystitis, rendering the urine less irritant, are of some benefit. These preparations are to be taken in large doses, and are claimed to cure cystitis, urethritis, prostatitis, and nearly all the genito-urinary affections. These bottles are accompanied by a large quantity of endorsements and recommendations from physicians, who are made the cat's paw to spread the medicinal compounds. Not much is known of the physiological and pharmacological action of the remedy, but the agent claims that it has cured many cases, and the testimonials show that in case A, where nothing could be done, a cure was effected with three bottles of the compound.

All these medicinal productions belong to the polipharmacy, consisting of different remedies, which is the chief factor in maintaining the monopoly of the remedy. They are based on empiricism, often resulting in no benefit to the patient and in no satisfaction to the physician.

External remedies for external application are produced in great quantity. Some are used as antiseptics, astringents, deodorants, protectives, etc. The largest class is that of the antiseptics in liquid form. Of these we have some which are of invaluable benefit, and are constantly used in medicine and surgery. For example, we have the hydrogen dioxid, also the pyrozone, hydrozome and glycozone. The name is appropriate, giving an idea of its chemical constitution; it is easily remembered and cannot cause any confusion.

Innumerable fluid compounds are given as antiseptics; most of them have a base of thymol, boracic acid, methyl, salicylate and menthol. Some bear names of illustrious scientists, to impress upon the public their composition and their efficacy. Every physician can prescribe an antiseptic solution, whose preparation will cost only a few cents, but those under a trade name, already prepared and put in fine bottles, make a better impression, and many physicians would consider themselves not up to the standard if they would not prescribe these antiseptic preparations.

Many ointments have lately been given for external application. Some are fatty substances used only as vehicles for ointments. Many are very desirable, as vasiline, vasogene, lanoline, etc. The name gives the history of their origin; in the pharmacopeia they cannot be registered otherwise. In regard to compounded ointments it is necessary to be very careful in order to know exactly their composition and the dose of the ingredients. In many ointments mercurial preparations are contained, which when used on large surfaces may cause stomatitis. In many instances these patented ointments are the cause of dermatitis and erythemata on account of the irritant ingredients in them. In the same way with regard to medicated soaps, we must always know the composition and the quantity of the ingredients so as to avoid irritation of the skin. It would be exceedingly lengthy to go over all the different pharmaceutical compounds which we recognize as proprietary medicines; it would be nearly an impossibility to review all of the different proprietary external applications which every day are appearing in the medical journals or are sent as samples to the physician. It is necessary for me, on account of the short time allowed, to stop on this interesting subject. I do not like to mention any particular production, I do not like to mention any particular pharmaceutical preparation, made either in this country or made in the old country. I consider them altogether as proprietary medicines, and as such I apply my remarks to them.

In this enormous multiplicity of remedies and of compounded preparations, the proprietors and the patentees are endeavoring to show by any means the alleged superiority of their articles and the efficacy of their productions. The competition between themselves is great, and therefore the article produced by another chemical company although resulting from the same formula is no good, has no effect, and therefore when prescribing that medicine, the name of the chemical company must be placed in the prescription.

All that is the result of competition, and in order to make money these merchants do anything. Of course the first important step is to introduce the remedial preparation in the medical profession, then it will go amongst the public. Several remedies which were introduced a few years ago in the medical profession, and readily accepted by the physicians, are to be found today in the saloons, as a result of advertisement.

Advertisement is made in the daily press, in the medical journals or by sending samples of the preparation to the physicians accompanied by some medical reports. The way of introducing the remedy can be in itself a criterion of its value. When the proprietor of a remedy or a patentee resorts to advertisement in the daily press, this is already a breach of the code of ethics, and the preparation must be regarded with suspicion by the physician. The physician recommending or prescribing that which is advertised in the daily press commits a breach of the code of ethics, encourages quackery, and debases his professional dignity. Any composition intended for remedial purposes, when advertised in the daily press, is for the public, and the physician has nothing to say, except to caution the unwary people not to take remedies of which the composition is not known, without medical advice.

Advertisements of remedial articles in the medical journals show the good intention of the manufacturers and of the proprietors to deal directly with the medical profession. Unfortunately, the medical journals are easily brought to accept an advertisement, which although not entirely in accordance with the code of ethics of the American Medical Association, yet, together with the others, can pass without trouble. Some of the medicine proprietors have their own medical journals, with very little reading matter, but with large quantities of advertisements, which are usually sent free to the doctors in order to persuade them to use their productions. Young doctors are requested to write some articles on the value of this or the other medicinal preparation, with the report of a few cases perfectly cured by the use of the remedy. These little reprints are given to the doctors with the samples in order to impress its value on them.

Gentlemen, I do not wish you to believe me too caustic against the medicine proprietors and patentees. I accept cheerfully any preparation which has some value, which has some new process in its preparation, which is rendered more palatable and easier to administer. I accept any preparation which is composed of valuable ingredients, according to the pharmacology and chemistry. I try almost any remedy and any preparation, and when I find something which does good I accept it, but when I find that its usefulness is entirely doubtful I have the right to discard such remedies from my practice.

The new pharmacopeia will be of great help to the physicians, placing all the new remedies in their proper classes, giving them their true names, and procuring in this way a uniformity of nomenclature. The pharmacopeia, however, cannot be published every year, but only after a certain number of years. This causes it to become old on account of the new remedies and new preparations which are produced every year. In this condition of affairs it remains with the physician to make the discrimination between the different preparations. It remains with the medical journals to accept advertisements of reputable preparations and to refuse those of preparations of unknown composition.

In conclusion I must congratulate those scientific manufacturers, who, with their study and their patient experimentation, have succeeded in placing in our hands remedies which are of invaluable benefit in medical and surgical practice.

For the other class of money making manufacturers, who place on the market unknown compounds, I say to the physicians to be careful and accept their products only after trial and authoritative information

In conclusion I would say that a physician interested in the welfare of his patients will always conscientiously prefer their benefit to the interest of a manufacturer. A little present sent by mail, will not be any inducement to prescribe remedies in which he has no confidence. Experience and good sense will guide him in the selection of the remedies, and he will take no notice of the shabby literature which accompanies advertised useless preparations.

5 Garfield Place, Cincinnati, O.

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*SOME MEASURES FOR THE PREVENTION OF CRIME, PAUPERISM, AND MENTAL DEFICIENCY.

Abstract by G. Hudson-Makuen, M. D., Philadelphia, President of the American Academy of Medicine.

Crime, pauperism, and mental deficiency are on the increase, and they are beginning to be a menace to our national life. The causes of this increase are many and complex. Civilization has not progressed uniformly. Many of its most important advances have a tendency to swell the ranks of the defective, delinquent, and dependent classes, and we have made no adequate provision for the prevention of this tendency. The improvident and incautious are reproducing their kind; while the more prudent and thrifty are occupied in a struggle for existence and independence, which is made more severe by the increased competition of advancing civilization.

The survival of the unfit has become our motto and our aim, and we have ignored the fact that hand in hand with their survival must go their reproduction. The natural resources of our country attract foreigners to our shores in great numbers and in every condition of mental, moral and physical depravity,—hence the necessity for a restricted immigration, for more stringent marriage laws, and in carefully selected cases, of the entire removal of the powers of procreation.

In addition to the recommendation of this scientific and rational process of selection, for the prevention of crime, pauperism, and mental deficiency, I have ventured to point out some of the evils of promiscuous alms-giving, and promiscuous dispensary service, and to show that the only real charity is that which helps people to help themselves. I have touched also upon the evils of institutionalism in the care and treatment of the defective, delinquent, and dependent classes, and this is a subject worthy of further development and further consideration by this Academy.

As a final measure for the prevention of crime, pauperism and mental deficiency, I have ventured to make some suggestions for widening the scope and influence of our methods of education. The object of education should be not so much the acquirement of knowledge as the de-

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*Delivered before the American Academy of Medicine, at its 25th annual session, at The Shelburne, Atlantic City, June 2, 1900.

velopment of character and brain power, of which the acquirement of knowledge and (what is equally important) its effective application, are the natural corrolaries. Every possible avenue to the brain should be utilized in our education, and as we study the action of other remedies, so should we study the action and effects of the various kinds of mental and physical training, and the best methods for their application. Thus shall we demonstrate the important fact that the moral nature is as capable of development as the intelluctual nature, and that muscle training, in all its varied forms is an essential factor both in the development of brain power and in the formation of character.

1419 Walnut Street.

THE INJECTION AND OPERATIVE TREATMENT OF INGUINAL HERNIA.

Scully (Med., Apr., 1900) says the injection treatment for inguinal hernia is often successful in those recent cases that may easily be retained by a truss. Herniae of long standing and of difficult retention are, at times, relieved by the injections, but the majority are not. Over 95 per cent. of inguinal herniae may, however, be cured by an operation, and the author advises this in all cases, employing the injection treatment in certain cases in which operation is refused. The following solution is employed:

Fluid extract quercus alba,..	1½ oz.
Solid extract quercus alba, ...	1½ dr.
Carbolic acid crystals...	2 dr.
Iodin resublimed....	2 dr.
Morphin sulphate	10 gr.

Mix the carbolic acid and iodin thoroughly in a mortar, add the other ingredients, and triturate thoroughly.

Twenty minims is the maximum quantity for an injection. Before using the injection a perfectly fitting truss is secured and the field of operation and syringe thoroughly cleansed and asepticised. The needle should be a stout one, 1½ to 2 inches long. Place the patient in a recumbent position. Having reduced the hernia, the index finger is placed in the inguinal canal by invaginating the skin over the external ring and pushing the finger up the canal until the tip reaches the internal ring. By feeling over the site of the internal ring the tip of the finger in the canal can be felt, and the needle should be inserted at this point, directly over the finger-tip, and pushed down quickly until it passes the end of the finger; 3 to 5 minims should then be injected slowly, and as the finger is withdrawn slowly the needle is made to follow it for about half an inch, during which time the fluid is still injected slowly, and when the 20 minims have been injected the needle should be withdrawn suddenly, to avoid depositing any of the fluid in the subcutaneous tissue; if the latter occurs it causes intense burning for a short time. The truss should be placed in position immediately, and the patient should lie down for about half an hour. If there is much pain after the injection, the placing of a hot-water bag over the site of the injection will soon ease the pain. The injection should be repeated once a week for 3 or 4 weeks, when, if the hernia does not come down after having taken the truss off, and having tested it by the patient coughing or stooping, you need give no more injections. The truss should be worn for at least 4 weeks longer, when if the patient desires it may be left off. In most cases it is well to advise a truss to be worn for from 4 to 6 months; one with a large soft pad is preferable. —Med. Mag.

PERMANGANATE OF POTASSIUM AS AN ANTIDOTE.

The powerful oxidizing properties of permanganate of potassium have rendered it valuable as an antiseptic and disinfectant, but its properties as an antidote for various poisons are not so generally known. It has been prescribed with success by Bokai and other physicians in the case of phosphorous, which it transforms into orthophosphoric acid. It has been used by Autail for oxalic and hydrocyanic acids and their salts as well as for strychnin and other vegetable alkaloids. Pyle Koemer has employed it in the case of poisoning by opium, and Lacerda for serpent bites and those of venomous insects, spiders, etc. Several years ago the physician Hugoneng showed its action against atropin, aconitin, caffein, cocainin, etc. In a recent work an Italian physician, Paratore, has remarked its effect upon the vegetable alkaloids such as nicotin and aconitin and also upon the vegetable poison curare. He has studied its action in cases of poisoning by strychnin, comparing it with the usual antidote such as tannin and iodin. As a result of his researches he finds that the permanganate is superior to others, whether employed in direct injection or in cleansing of the stomach.—Scientific American.

LOGWOOD FOR RHEUMATISM.

Dr. Jas. T. Hurd, of Galeton, Pa., in a letter to the editor, adds the following note: "A very intelligent woman told me this morning that one pound of log wood chips in one quart of whisky, wine glassfull 3 times a day, would cure inflammatory rheumatism, and recited many instances of its successful use."—Med. Council.

A valuable law has just gone into effect in New York—one of interest to the profession. It prohibits drug clerks from working more than seventy hours per week, with one full hour off for all meals, one day off in two weeks, and sanitary inspection of their sleeping quarters. Other states should do the same.—Med. Gazette.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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Annual Subscription, in advance, domestic, -	$1.00
Annual Subscription, in advance, foreign, -	1.50
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Masonic Temple.

JULY, 1900.

MODERN VIEWS OF GASTRIC HEMORRHAGE.

In its gradual development on the field of medicine, surgery has not omitted to deal with gastric hemorrhage. In his oration before the American Medical Association at Atlantic City, Dr. William L. Rodman (Jour. Am. Med. Assn., June 16, 1900) dealt in a comprehensive manner with the question. The varieties of gastric hemorrhage he states as ulcer of the stomach, duodenal ulcer, gastric carcinoma, cirrhosis of the liver, vicarious menstruation, post operative hematemesis, purpura hemorrhagica, miliary aneurysms, aneurysms of the aorta and other vessels, leukemia, typhoid, yellow and other infectious fevers, valvular disease of the heart, and various kinds of traumatism. Of all this long list of causes gastric ulcer is the most common disease of the stomach producing hemorrhage. Five per cent. of the population according to Ewald and other authorities suffer from gastric ulcer, and of those thus afflicted 50 per cent. have gastric hemorrhage and it is fatal in eight per cent of the cases in which it occurs.

The prompt and early diagnosis of gastric ulcer is important. It must be distinguished from carcinoma of the stomach, and in this connection J. M. Da Costa has drawn attention to the fact that when the patient refers to the pain of gastric ulcer he will point at it with the tip of his finger, rather than with the entire hand, as he would do if the pain was due to any other disease. It is usually felt with the greatest intensity from one to two inches below the xiphoid cartilage; and directly opposite, near the heads of the last two ribs, will be found a second painful spot. Emesis often relieves the pain of ulcer when it empties the stomach; the vomiting which attends carcinoma gives no such relief. The quantity of blood lost is of diagnostic value being usually small and frequent in carcinoma, and of coffee-ground appearance often copious in gastric ulcer. The presence of a tumor must not be regarded as a pathognomonic sign of cancer, for in forty cases of gastric ulcer operated on quite a number gave evidence of a tumor and all of the operators thought that they were operating for malignant disease, until the microscope showed differently, and in every instance the subsequent chemical history has confirmed the verdict of the microscopist.

In the treatment of gastric ulcer important advances have been made. The routine treatment by ice, astringents and opium, combined with rest in the recumbent posture, is still relied upon in first hemorrhages, but the injection of hot water (112 to 120 F.) is so valuable a remedy that it cannot be too strongly recommended. It acts promptly in hemorrhage from the rectum and intestine by direct application of the hot water to the bleeding vessels; in gastro-hemorrhage its action is reflex. One to three quarts may be allowed to flow into the rectum from a fountain syringe twice or thrice a day, and should the loss of blood require it, the addition of salt in proper proportion to form a normal salt solution will give the patient the benefit of the best antidotes to shock. The use of hot water combined with the other remedies already referred to will control gastric hemorrhage when the blood comes from capillaries and arterioles, but in about four-fifths of the cases which prove fatal the blood comes from vessels of large size. Hence the question has arisen: having exhausted all the medical methods of arresting hemorrhage, should the bleeding vessels be treated surgically, that is cut down upon and ligated, just as the surgeon would cut down upon and ligate the radial or the brachial artery? On this point Dr. Rodman says:

"There are now a sufficient number of cases on record to justify the statement that better results will be secured by judicious interference than by a policy of inaction hitherto invariably followed. By this I woud not be understood as advocating the opposite plan of interference in every case—far from it. Up to a certain point there is substantial agreement between physicians and surgeons, and I may say here that the idea of arresting hemorrhage from gastric ulcer by surgical means occurred to a physician and a surgeon at the same time. In all cases of small but frequent hemorrhages, which slowly but surely destroy the patient, recourse should be had to timely operation. If there is at the same time gastrectasis, the indication for operation is absolute, as dilitation stretches the ulcer, prevents healing and favors bleeding.

"The results, too, of operations for chronic hemorrhage have been more than encouraging, and should, without question, lead to earlier and more frequent surgical intervention. There have been thirty-one operations for frequently recurring, or what might be called chronic, hemorrhage, with six deaths, or a mortality of 19.3 per cent. This is, under the circumstances, an excellent showing when it is remembered that it represents but little more than the average mortality given in a large number of operations on the stomach for non-hemorrhagic ulcers, Mr. Robson reports 188 operations for gastric ulcer—non-hemorrhagic and non-perforating—with a mortality of 16.4 per cent., which is about the same conclusion reached by Heydenreich, Tricome and others who have written on the subject. He (Robson) later on gives the mortality of operations for chronic hemorrhage as 10.5 per cent. Manifestly gastroenterostomy, pyloroplasty, or other operations on the stomach should not give a better prognosis on account of the presence of hemorrhage as a symptom. The good showing now made for recurring hemorrhage will be still better when physicians generally recognize that if delayed operations are justifiable, early ones are better, and should, therefore, be encouraged at a time when the chances of success are correspondingly brighter.

"Operations for acute hemorrhage in general do not so imperatively call for surgical intervention, but when this is said, is is saying nothing more than is true of external hemorrhage. In the present state of our knowledge, we cannot say that operation should ever be done during the first hemorrhage or the ensuing shock. Likewise, if seen after the hemorrhage, when the patient is successfully rallying from shock, a policy of non-intervention is not only permissible but best.

"Dieulafoy advises surgical intervention after the first hemorrhage, if as much as half a liter of blood is lost, and insists on operation if the bleeding is repeated within twenty-four hours. One of Dieulafoy's patients was successfully operated on by Cazin, after the first hemorrhage. There has been, however, a rather general condemnation of too early operation by surgeons, from Mikulicz, the first to operate for hemorrhage, in 1887, and from Keen, Hartman, Heydenriech and Robson, none of whom have advised operations in acute hemorrhage. Certainly surgeons cannot be accused of too great alacrity in operating for gastric hemorrhage when none have been so radical as a physician.

"If the hemorrhage is repeated within a short time, the burning question will present itself to the physician first, to the surgeon next: shall a policy of 'masterly inactivity' be longer pursued? To this question a majority would still answer 'yes,' believing that the chances offered by Nature are better than those given by surgery. I am satisfied that during a second serious hemorrhage inaction should govern, or only medical means be used, but as soon as bleeding ceases, the patient has rallied from shock and is in good condition, something should be done to prevent what are reasonably certain—other hemorrhages. This is even less radical than what we should do in external hemorrhage, and, as has been said, Nature has less chance to arrest spontaneously bleeding from vessels opened by ulcerative action.

"I am thoroughly convinced, from a careful study of all reported operative cases up to date, that none were operated on too early, but many too late. It is certainly the duty of the physician to summon surgical aid as soon as the second hemorrhage begins, if he has not already done so, that everything may be in readiness to seize upon a propitious time for interference before a third attack."

MANAGEMENT OF THE HAIR DURING AND AFTER FEVERS

In many cases of fever the physician is often at a loss to know just what to do to retain the hair on the heads of his patients, and the subject is well worthy the thoughtful consideration of every practitioner. The matter is so well discussed by George Thomas Jackson, M.D., in the May number of the N. Y. Med. Jour., that we reproduce the article complete below:

"It is well known to both physicians and the laity that after fevers and parturition, as well as after some non-febrile but exhausting diseases, the hair is prone to fall out. The reason it does so is that during the illness the nutrition of the hair is interfered with, the hair receiving its blood supply from a deep plexus of vessels, and its nutrition sympathizing actively with the state of the general nutrition of the body. During the illness we shall be asked if we cannot do something to prevent the falling out of the hair. Unfortunately, we can do nothing except try to keep the scalp in good condition. If the patient is very ill, we are unable to do anything active, but the attempt must be made to brush, or at least comb, the hair daily. If the patient is a man, that will be comparatively an easy task; if a woman our task is much harder. Still, even then, a nurse with deft fingers can comb out a little of the long hair at a time, and thus keep it from snarling. If the patient is not so ill as to preclude it, in addition to the daily combing of the hair a little oil or vaseline should be rubbed into the scalp once or twice a week.

"As a rule the hair does not begin to fall until some six weeks or more from the beginning of the illness. If the patient recovers with her hair in a snarl, should she be a girl under 15, the easiest course to pursue is to have it cut off as short as necessary to rid the mass of all the entangled hair. If the patient is more than 15 years old, or even if she is younger and can command skilled care, the snarled hair must be disentangled by quiet and persevering effort. There is probably no snarl that will not yield to patient and persevering combing and manipulation

"It is during convalescence that the patient's friends, and perhaps the patient herself, are urgent for permission to have the scalp shaved and cross shaved. They will cite cases where this has been done and magnificent heads of hair have resulted, even straight hair coming in curly. It is useless to deny that such things do happen, but they are not consequent upon the shaving. I have seen more than one woman whose hair has come in curly, although lost after a fever, and without shaving. We should advise against shaving, explaining to the persons interested that it means a good deal of discomfort from wearing a wig, especially while the hair is growing, and a good deal of useless embarrassment on account of having to go about for months with short hair, to say nothing of the cost of the wig —a no small item. We should tell the patients that there is no way of foretelling how much hair will fall out, and that it is usually not enough to prevent 'doing up the hair' so as to present a respectable appearance; and that if they follow out directions they will have just as fine a head of hair as if they had shaved, and be saved all the by no means trivial annoyances that follow upon shaving.

"We should direct that the hair be brushed and combed daily, telling them that they need not be worried because this will pull out a good deal of their hair, as it is only the diseased hair that can be so pulled out, and the sooner it is out the better. Once or twice a week a little pomade containing a drachm of precipitated sulphur to the ounce of a good cold cream should be well worked into the scalp. Or we may use daily a 3 per cent. lotion of resorcin in oil and alcohol. Personally I prefer the pomade. Many prefer a liquid preparation. Once in two or three weeks the hair and scalp are to be washed. Of course, this will pull out a lot of the damaged hair, which is a matter of no consequence. For the shampoo, we may use any good soap, though the most convenient kind is the liquid one, such as the tincture of green soap. If the latter is used, we should direct the patient to invert the bottle on a piece of flannel, dip the flannel in warm water, and use just as little soap as will make a good lather. So used, the soap will not convert the hair into a mass of strings. If too much soap is used, it will be difficult to wash it out. The soap should be all washed out, and the best way to do this is to have the patient place her head under the full stream of the bath-room faucet, or a hose attached to the same. After washing, the hair is to be carefully dried, and a little of the pomade rubbed into the scalp to take the place of the natural oil removed in the washing.

"I feel sure, from seeing the results of this plan of treatment, that if these directions are carried out the patient will regain all the hair she lost, and often get more; she will be saved all the discomforts of having to wear a wig, and she will rejoice and give thanks to you.

NEW OFFICERS FOR THE NORTH DAKOTA MEDICAL SOCIETY.

To the Editors of the Medical Dial:

At the annual meeting of the North Dakota Medical Society the following officers for the ensuing year were elected:

President—H. J. Rowe, M. D., Casselton.

First Vice-President—H. D. Quarry, M. D., Grand Forks.

Second Vice-President—Wm. H. Bodenstot, M. D., New Salem.

Secretary—Paul Sorkness, M. D., Fargo.

Treasurer—J. A. Rankin, M. D., Jamestown.

Paul Sorkness, M. D.,
Sec'y.

HAMLINE MEDICAL GRADUATES.

The graduating exercises of the medical graduates of Hamline University took place on Wednesday evening, June 6, in the Hennepin Avenue Methodist Church, Minneapolis. There was a large attendance at these exercises, which were interesting as usual. Aside from the orchestral music the programme was as follows:

Address, "The Physician's Position in Modern Life," by Prof. H. L. Osborn, Ph.D.

Address, "Chemistry in Its Relation to Medical Science," (published elsewhere in this issue), by Prof. C. W. Drew, Ph.B., M.D.

Alma Mater, by Leo M. Crafts, B.L., M.D.

The following is the list of graduates:

M. D. C. M. Cum Laude—George Albert Kohler, Ph.G.; Victor I. Miller; Jerry P. O'Connor; Frank Jay Van Kirk.

M. D. C. M.—Edward J. Brown; Jenner Perry Chance; James H. Fonger; John Richard Gill; Hugh E. Houston; Daniel Kreidt; Owen McKeon; John William Mintener; Emanuel Oberg; Thomas T. Skogan; John T. Shelland; Eric Th. Sherping; J. Francis Schefcik, Ph.G.

Course for Graduates—R. H. Clark, M.D.

SUCCESSSFUL FINANCIERING.

Stranger (midnight)—I should like you to go to No. 999 Suburb av. to see my wife.

Doctor—All right; I'll be ready as soon as I can get my carriage. Wait and you can ride with me.

Doctor (two hours later)—I can see nothing the matter with your wife except that she seems pretty mad at being waked up.

Stranger—Remarkable recovery, I must say. Here's your dollar.

Wife (five minutes later)—Why in creation did you bring a doctor to see me?

Husband—The street cars had stopped running and it was cheaper than hiring a cab.—New York Weekly.

Deadly drugs are manufactured on a large scale in Baltimore, and a recent publication of that city gives many interesting facts connected with their production and the care necessary on the part of the workmen employed. Hydrocyanic acid is produced in air-tight retorts and receivers to obviate the danger from inhaling the fumes which even in minute quantities are deadly. While the compounds of copper and sulphuric acid are considered dangerous, the manufacture of nitric acid seems to be especially dreaded, because of its volatility. The story is told of the accidental breakage of a carboy of the acid, setting fire to some sawdust and then to a room in which many men were at work. Four workmen who volunteered to put out the fire to save the entire works succeeded in their efforts and were apparently unaffected by the fumes, until four hours later, when each became ill with distress in the chest, and in less than an hour all four were dead.—Medical Record.

Several carefully observed cases of falling of hair from emotion have been recorded of late in the Progrès Médicale, and a still more striking case, reported by F. Boissier, is now added. A normal, healthy farmer, thirty-eight years of age, saw his child thrown and trampled by a mule. He supposed it killed, and experienced in his fright and anguish a sensation of chilliness and tension in his face and head. The child escaped with bruises, but the father's hair, beard and eyebrows commenced to drop out the next day, and by the end of a week he was entirely bald. A new growth of hair appeared in time, but finer, and exactly the color of the hair of an Albino.—Med. Times.

Progress of Medicine.

OBSTETRICS.

UNDER THE CHARGE OF

A. B. CATES, A. M., M. D. R. E. CUTTS, B. S., M. D

A PROBLEM IN ANTENATAL PATHOLOGY.

Am. Jr. Obs., May, 1900.

J. W. Ballantyne, Edin., reports a case of recurrent monstrosities and discusses probable cause.

The parents were apparently in perfect health; the mother was well formed save a lack of development of the short muscles of both thumbs; a sister was likewise affected, as was also her mother. This defect was so marked as to interfere to some extent in the action of the thumb.

This woman gave birth to two healthy, normal boys at an interval of two years. The third conception aborted at about the third month. A little more than a year later she gave birth to a hydrocephalic dead female fetus with absence of right thumb and radius. Somewhat more than a year passed, when she gave birth to a living normal female child. Nearly two years later another female child was born. It was anencephalic, had spinabifida talipes calcaneous of one foot; right thumb deformed and attached only by soft tissue; besides other minor abnormal conditions.

About two years later another female child was born, but, being delicate, lived but a few weeks. This year—about two years since the last birth—another female child is given birth, evidently premature, with absence of both radii and right thumb, and with defective development of the left which was attached to the hand by a narrow piece of skin. This child lived only three days.

Neither of the parents show any signs of syphilis, rickets or disturbances of nutrition. The father is a moderate drinker. Before the abortion the healthy boys were born. After it five girls all having congenital defects except one. Some of the facts are in accordance with the laws of teratology, such as the prevalence of monstrous developments in female children as compared with males, and the family history of the malformations.

Causes considered are two: hereditary tendency in mother's family and a lowered power of reproductive processes.

When the reproductive process was at its best the tendency to deformities was overcome, as shown in the birth of the boys, but having been lowered by the abortion, the developmental powers fell below par, and as a result not only girls are given birth, but the process is so greatly reduced that deformed females are the result of conception.

The treatment suggested is not only surgical, to bring back the female reproductive organs to their normal condition, but thyroid extract is also recommended hoping thereby to encourage normal embryogenesis before birth. —R. E. Cutts.

PEDIATRICS.

UNDER THE CHARGE OF

H. B. SWEETSER, M. D. J. P. BARBER, M. D

RICKETS.

Morse (Philadelphia Med. Jour., May 26, 1900) found distinct bony changes characteristic of rickets in 80 per cent of 400 consecutive examinations of infants under two years of age. He thinks this percentage is undoubtedly too low, as many babies only a few days old were included in the 400, and only those cases were called rechitic in which bony changes were evident. J. P. B.

AMNESIA.

Philip F. Barbour (Pediatrics, May 15th. 1900) reports a case occurring in a girl four years and three months old. At the age of four months the child had convulsions lasting nine hours (the kind of convulsion not stated). Since that time she had convulsive seizures about every two weeks, which were more violent or more frequent whenever her bowels became constipated. Bromides had been given in large doses, producing some mental dullness and an annoying acne, without any benefit.

Barbour was called after one of these attacks, which was accompanied by high temperature, and found the child in a state of stupor and apparently partially paralyzed in the right upper and lower extremities. A soap enema removed a quantity of foul smelling feces and gas. The fever disappeared and the temperature remained normal, the paresis cleared up, and the child seemed perfectly well, except complete loss of memory. It was several days before she began to recognize her playmates, and several weeks elapsed before her memory was perfectly restored. The restoration followed Ribot's law.

Barbour attributes the amnesia, as well as the recurring convulsions, to auto-intoxication from intestinal derangement. His treatment was directed towards securing more perfect digestion and there had not been a recurrence of the convulsions, four months having elapsed.

J. P. B.

THE TECHNIQUE OF LUMBAR PUNCTURE.

Lewis A. Conner, M. D., (N. Y. Med. Jour., May 12, 1900,) discusses the technique of lumbar puncture. After dealing with the anatomy of the cord and the various methods already recommended he describes the procedure as follows:

"Landmarks.—The different spinous processes may usually be located either by counting downward from the twelfth dorsal vertebra which can be identified by its articulation with the twelfth rib, or by locating the first spinous tubercle of the sacrum, which is usually prominent and distinct from the lower ones.

"When patients are fat or very muscular, however, the bony prominences are often very indistinct and difficult to identify in this way, and much the most satisfactory means of locating the vertebrae is, as Jacoby well says, by taking a line between the highest points of the iliac crests. This line regularly crosses the fourth vertebral spine. When the spinal column is well flexed and in position for puncturing, I have found that the line usually passes near the upper edge of the fourth spine. Occasionally it will cross the space between the third and fourth spines.

"Instruments.—An antitoxine needle four or five centimetres (an inch and three-quarters or two inches) long and one millimetre in diameter serves admirably in children. For adults the needle should be eight or nine centimetres long and of a diameter sufficient to give the rigidity needed to penetrate readily the tough ligament.

"While the needle can be, and frequently is, introduced without being attached to the syringe the latter is a distinct aid to one in directing the needle accurately, and I always prefer to use it for that purpose. A syringe which can be sterilized by boiling is most convenient, but is by no means essential. If the syringe is sterilized by soaking in carbolic solution, it must be thoroughly washed out with sterile water before being used.

"A sterile test tube stoppered with cotton should be at hand to receive the fluid.

A mercury manometer for estimating the cerebro-spinal pressure is very convenient, but, as Stadelmann says, an approximately acurate idea of the pressure can be obtained by using a bent glass tube of small calibre. The short horizontal limb is attached by a bit of rubber tube to the needle, while the long perpendicular limb will record the height of the column of fluid.

"Puncture.—After the desired space is located, the interval between the spines is marked with the finger of the left hand, and the needle is introduced at a point opposite the upper edge of the lower spinous process and in a line just outside (i.e., a few millimetres from the median line). The needle is directed very slightly upward and toward the median line, with a view to having it in the median line when it enters the subarachnoid space. In children the puncture can, as Quincke says, be made directly in the median line; but even in children the supraspinous and interspinous ligaments offer considerable resistance, and it is usually wiser to avoid these by going slightly to one side. As the needle passes through the interlaminar ligament the resistance is increased and a slight grating feeling is noticed; beyond this the needle slips in very easily and is introduced until fluid begins to appear in the syringe.

"In children, the fluid is reached at a depth of from two to three centimetres; in adults, at from four to seven centimetres. If bony resistance is met in introducing the needle, the latter is to be withdrawn for a slight distance and directed at a slightly different angle.

"After the fluid appears, the syringe is taken off and the fluid is collected in the sterile tube. In the horizontal position the fluid usually flows drop by drop. In the upright position it frequently runs in a gentle stream. It is much better to let the fluid run from the needle than to aspirate with the syringe. The sudden reduction of pressure by aspiration may easily produce unpleasant symptoms. Occasionally, when the flow through the needle is unsatisfactory, it may, however, be necessary to apply gentle suction with the syringe.

"The amount of fluid to be removed will depend upon the purpose of the puncture. If for diagnosis alone, ten or fifteen cubic centimetres are usually ample. If for therapeutic purposes, it may seem desirable to remove several times that amount. The quantity of fluid which can be safely withdrawn varies enormously in different individuals and under different pathological conditions. Perhaps the safest guide is the condition of the patient. The flow should be stopped at once upon the appearance of such symptoms as headache, faintness, or a change in the character of the pulse.

Kroenig relies upon the manometer and stops the flow when the cerebro-spinal pressure reaches 125 millimetres of water. This he regards as the normal pressure when the patient is in the horizontal position.

"When the needle is withdrawn, a procedure which usually requires some force, the skin wound is covered with a bit of sterile cotton and with collodion.

"Accidents.—These are infrequent and, for the most part, trivial and unimportant, although they may be annoying. It rarely happens that any difficulty is experienced in entering the spinal canal; but occasionally, when one is sure that the needle is in the canal, no fluid will appear.

"This may be due to one of several causes: The needle may have become plugged while being introduced, or it may not have entered the subarachnoid space, even though in the canal. There may be inflammatory adhesions between the arachnoid and pia, with more or less complete obliteration of the subarachnoid space; or the contents of the space may be of gelatinous or even wax-like consistence. Packard cites one such case.

"Occasionally the fluid, instead of being clear or turbid, may be blood-stained from injury to some small vein. Aside from the fact that it obscures the character of the cerebro-spinal fluid this has no importance.

"A number of more serious accidents or sequelae have been reported, yet they are certainly of very rare ocurrence, and have been associated in almost every case with the removal of a very large quantity of fluid.

"Rieken saw in one case violent twitchings of the right leg during puncture.

"In a few cases of uremia and brain tumor death has followed, within a few hours, the withdrawal of a large amount of fluid.

"Those conditions in which the greatly increased cerebro-spinal pressure has existed for some time—e. g., brain tumors—are the ones apparently which bear least well the sudden removal of a large quantity of fluid."

Premature publication in the daily press bids fair to greatly embarass Metchnikoff in his search for a serum to feed the cells to the end that long life may be attained. This same prematurity interfered with Koch in his experi ments with an anti-tubercular serum. However, the latter is something of a failure. Metchnikoff believes he can cause a person to live 250 years, which is hardly possible. Man can accomplish many seemingly impossible things successfully. Long distance interference with nature, however, seems impossible as well as improbable.—Med. Exam. and Pract.

THE POISON OF REPTILES.

The following, so far as known, is a list of the most poisonous species of the ophidian tribe, both of the Orient and the American continent: The cobra, of India; the Egyptian viper; the asp of Cleopatra; the banana snake, of Indo-China; the tiger snake and black snake, of Australia; the European viper; the horned viper of the Soudan; the Gabon viper and adder, of North Africa. On the American continent the rattlesnake is king, followed in the order named by the copper-head, the coral snake (or harlequin) found along the southern coast of Georgia, Florida and Alabama, the cotton-mouth, and water moccasin.

The cobra, heading the list, is the most poisonous reptile known. Twenty thousand people perish annually in India from the effects of its deadly venom. It was an accepted theory for a long while that snake poison contained an animal alkaloid, which was the specific virulent essence in the death-dealing substance. But later and more scientific analysis has proved the theory incorrect, and developed the fact that it is an albuminoid. There are two albuminoids. and one of them like the saliva, is non-poisonous, and can be coagulated by moderate heat. The other or poisonous albuminoid is persistently fluid under a temperature of 200 deg. F., and is the active or death-dealing principle. Under this heat it will evaporate, but lose none of its toxic properties. It is non-poisonous, however, when taken internally or when applied to the mucous membranes of the body.

It is a curious fact that two substances so dissimilar in their effects on man as snake poison and albumin should be nearly identical in chemical composition.

The first analysis of snake poison attempted was by Prince Lucien Bonaparte, in 1843. He succeeded in isolating the active principle from the poison, which he denominated "viperine." A similar principle has been separated from the poison of the rattlesnake within the last few years by Dr. Weir Mitchell, and by him called "crotaline." This albuminoid, when exposed for a long time in an open vessel to the air, or to a gentle heat for a short while, is reduced to a thick, gummy substance that retains for a long time all of its former toxic properties in a highly concentrated form. Persons have been known to become infected by accidentally wounding themselves with the fangs of a rattler that had been exposed to the elements of the prairies for months after the death of the reptile.

Learning, as we do, that the poison of each species yields practically the same results upon chemical analysis, it is reasonable to infer that the virulency of one species over another is a difference in degree, rather than a difference in the poisonous essence per se.

If an antidote be discovered that will successfully neutralize the effects of the venom of one poisonous member of the ophidian family, we shall have a reliable antidote for the poison of every species.

It is an attested fact that a serpent is proof against its own poison, or that of another serpent of the same species, and also against serpents that are less poisonous themselves, while they will quickly succumb to one that is more poisonous. For instance, the rattlesnake would come off without injury from a bite of a water moccasin, while a water moccasin (being less poisonous) would die from the bite of a rattlesnake.

Examinations with the microscope of animals infected with snake poison reveals the fact that the blood undergoes a peculiar coagulation. The corpuscles lose their shape and become agglomerated, first in the immediate vicinity of the part infected and extending rapidly over the entire system. The resistive forces of the system being wrought up to dispute the invasion of the venom, results in the tremors and spasms so universally present in persons affected. As the resistive forces become exhausted, the venom advances more rapidly toward the life centers, coagulating the fluids in its deadly march, until paralysis of the respiratory and circulatory centers finally supervenes, with great difficulty of breathing; and death results in from two to twenty hours from the time the poison was injected, depending on the quantity or quality of the venom and the resistive powers of the constitution.

By far the most promising remedy yet introduced, judging from the report of its effects so far, is one by Dr. Calmette, of Paris. He found by experiment on rabbits and guinea-pigs that he could introduce into their circulation ten times the amount of poison that it would take to cause death in two hours, and that if they were treated within forty minutes after inoculation they recovered promptly.

The remedy is chemically pure chloride of lime (it is best to keep it in hermetically sealed vials until needed for use). Prepare it for use by dissolving one part by weight of the chloride in eleven parts of boiling water. The solution should not be made until about to be used. This should be injected subcutaneously all about the wound and under the skin of the abdomen, that it may enter the circulation as quickly as possible. It has the property of preventing the coagulation of the blood by neutralizing the poison by chemical process.—Exchange.

A PLEA FOR THE RADICAL TREATMENT OF HAY FEVER.

After a brief sketch of the historical data of the disease, Clark (The Chicago Clinic, Aug., 1899) reiterates the statement made by Sir Andrew Clark in 1887, that there are invariably three factors at work in the determination of an attack of hay fever—(1) a neurotic habit, (2) an intra-nasal pathological condition, (3) an external exciting cause. The lack of any one of these three factors makes an attack of hay fever impossible. The first is the most difficult cause to treat successfully, and the third can only be avoided by removal to a locality where it does not exist. The intra-nasal lesion can always be treated, and with fair prospect of success. The treatment may be either palliative or radical. The former gives temporary relief but does not cure. Radical treatment consists in the removal of all abnormal conditions found in the nose. Polypi should be removed with the snare and their bases touched with the galvano-cautery. Hyperasthetic areas must be treated with the galvano-cautery or some counter-irritant, such as iodine. Author is of the opinion that our chances for success in the treatment of the disease by attacking the intra-nasal lesion diminishes just in proportion as the neurotic element becomes pronounced.

THE LATEST DON'TS.

The Journal of the N. Y. County Medica-Pharmaceutical League, New York, May, 1900 (Dr. Samuel F. Brothers, Ph. G., editor), contains some of the latest don'ts which are worth repeating.

Don't incise an infantile articular rheumatism.

Don't recommend nurses who only attend patients at intervals; who are afraid of fatal cases, or who will not accommodate you in an emergency.

Don't tell a patient to say, "Doctor need not call—she has been sent to the hospital."

Don't tell patients that they got fever "from the medicine."

Don't go to a doctor's office to tell him that he need not keep your appointment.

Don't think that because you have a "pull" in a big institution you can afford to offend everybody.

Don't "accommodate" charity patients with sectarian institutions and other luxuries, any more than you would advise "universal" dry goods stores for medicines, etc.

Don't consider lay "directors" in any better light than the wealthy butcher who would enrich himself still more by giving bread away free to all and thereby starving the honest, struggling baker.

Don't allow the deliberate assault of a young rascal to go unpunished, even at the risk of being called poor.

Don't call a lodge-doctor or druggist a "scab."

Don't crawl to anybody.

Don't forget that hæmoptysis may occur during a pleuro-pneumonia.

Don't substitute another consultant for your friend.

Don't write expensive prescriptions in dispensaries, unless you really fill them.

Don't be altogether skeptical about telepathy, when you know that a pigeon can reach its home from two hundred miles away.

Don't get a bloated cranial apparatus after graduation.

Don't say, "He cannot compare himself with so-and-so."

Don't forget that money is not everything.

Don't forget that your rent, through the landlord's taxes, is paying for the new tunnels and bridges.

Don't allow unprincipled real estate speculators to incite your tenants.

Don't return ingratitude for beneficent effort.

Don't accuse a physician on flimsy evidence.

Don't nominate and elect public servants who will make you overpay 50 per cent. on an ash-can for the privilege, or outrageous taxes, assessments and rents.

Don't allow a "Felsher" to interrogate you at a patient's house.

Don't forget that there is an "erysipelatous" tonsilitis.

Don't keep obstetric patients choked up in the house for more than three weeks.

Don't diagnose "tonsilitis" for myalgic torticollis.

Don't diagnose "cerebral trouble" for chorea minor.

Don't pinch the perineum with your obstetric forceps.

Don't imagine that proprietary article agents always call outside of office-hours unintentionally.

Don't allow "charity nurses" to interview your conduct.

Don't forget that cardiac depression occurs in rheumatism before valvular disease can be detected.

Don't forget that alcoholic stimulants are allowable in pleuro-pneumonia and in erysipelas.

Don't forget that the discoloration of iodine and the blackening of lunar caustic last longer than the erysipelatous rash.

SOME OF THE CAUSES AND EFFECTS OF MOUTH BREATHING.

Ingersoll (Buffalo Medical Journal, January, 1900) says that in children the most frequent cause of mouth breathing is adenoid growths in the naso-pharynx. Hypertrophied tonsils and nasal polypi are also frequent. Deformities of the septum or turbinated bones sometimes occur. The results of the condition are many and widespread. The facial bones are not properly developed, the air-passages are in a state of chronic inflammation, there is a feeling of languor, a lack of endurance, and sometimes a functional heart trouble may be found. Deafness is common, and frequently causes inattention and an appearance of stupidity. The symptoms are relieved by the removal of the obstruction.—Med. Fortnightly.

CASTOR OIL IN THE TREATMENT OF NEURALGIA.

Harold M. Moyer (Jour. Am. Med. Assn.) reports several cases of neuralgia which he has treated with castor oil with good results. The results with acute neuralgia were, as might be expected, better than with the chronic, although even, in the latter only one failure is recorded, when a patient with a neuralgia of the third division of the nerve on one side continued the treatment for two or three weeks with no improvement in the symptoms. The oil is administered in the morning before breakfast, and the dose is from one to two ounces. The most efficient means of administration is in ale, preferably Dogshead or Bass', which contains a large quantity of gas. When first given it acts freely on the bowels, but if continued daily its cathartic effect rapidly diminishes. The author does not think that the value of this oil in neuralgias is due to its cathartic properties, but thinks it probable that substances are present in it which have not been fully identified, which substances may have some effect on the sensory nerves.—Med. Record.

CHRONIC ECZEMA.

A confrère asserts that he obtains the radical cure of eczema where it occurs in isolated patches on the upper extremities and so rebellious to the ordinary method of treatment, as follows: After having washed thoroughly with soap and water the part and dried it, he rubs in vigorously a 50-per-cent. solution of caustic potash by means of a plug of cotton tied to a rod; he then washes the spot freely with water, and, finally, paints it over with a 50-per-cent. solution of nitrate of silver, and envelops the whole in aseptic cotton. This dressing is left in place until the cicatrix is formed beneath the slough, or from one to two weeks. The itching ceases immediately after the application of the caustics. Out of thirty cases thus treated, only one required the operation a second time.—Med. Press and Circular.

TREATMENT OF HEMORRHOIDS.

According to J. Boas and F. Karewsky (Therapie der Gegenwart, November, 1899), in hemorrhoids a bland diet, especially sweet milk, is absolutely injurious on account of the lack of stimulation of the peristalis. Great care should be paid to the toilet of the anal region after defecation, a solution of tannin or alum on a cotton wad being used. An ascending douche is of value. In giving enemata a soft sound should be used, and all irritating substances, like glycerin, salt, etc., should be avoided. Except in extreme cases purgatives should not be given. To control hemorrhage, which occurs even when the feces are normal, a teaspoonful of fluid extract of hamamelis Virginica in a wineglassful of water three times a day for four weeks, then twice a day for another month, is to be recommended. If the hemorrhage is severe a powerful dose of opium should be given and the bleeding spot tamponed with gauze. After it has been arrested for three days a dose of castor-oil is to be taken.—Jour. A. M. A.

YET ANOTHER REMEDY FOR SEA-SICKNESS.

Dr. Skinner has brought forth a remedy for the above condition which he personally tried in 47 cases, with success in 40, and partial success in the remaining 7. It consists in the administration of the following, hypodermically: Strychnin sulph., gr. $^1/_{60}$; atropin sulph., gr. $^1/_{100}$; aq. menth pip., gtt. x-xv; and repeat in 3 hours if necessary. It should be administered at the very outset of the attack.—Med. Mag.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, AUGUST, 1900. No. 8.

Original Articles.

*PROGRESS OF RENAL SURGERY.

By H. B. Sweetser, M.D., President of the Hennepin County Medical Society.

Ladies and gentlemen, and members of the Hennepin County Medical Society:

It is, under the constitution, the duty and privilege of the president to present at the annual meeting an address on some professional or scientific subject. Before proceeding to do this, however, I wish, with your indulgence, to take advantage of this opportunity to present for your consideration a few observations of interest to us all in relation to our society.

First, and above all, I wish to tell you how fully I appreciate the honor of which you have deemed me worthy, and to thank you most sincerely for the support you have given, as evidenced by the large attendance at the meetings during the year, and the willingness with which members responded to the request for papers. Further, and in a special manner, I am grateful to the members of the executive committee for their hearty co-operation and assistance; for, without them, much of the success of the year would have been impossible—notably the lectures by Prof. Adami (due to Dr. Hunter), and those meetings for which they individually were responsible.

Again, since I have been the presiding officer and concerned in a special manner in the smooth and successful running of the society and its meetings, I have learned to appreciate the labor entailed in the secretaryship, such as the regular attendance at meetings and committees, the taking and transcribing of the minutes, the attention to the printing and sending out of programs and notices, and the hundred other things which take time. As our society grows older and larger the work of this office will increase in amount and in value, and I think our interests will be best served if it is held for a long period by the same person. And yet such an arrangement becomes a hardship to the individual, and the office is seldom retained beyond two or three years. I would therefore suggest that the offices of secretary and treasurer be merged in one, and that some compensation be attached thereto.

But the most important matter to which I desire to draw your attention is that which concerns our immediate future. As our city has come to assume metropolitan proportions, so also gradually has her representative medical association evolved from a weakling to its present strength; yet, notwithstanding its very satisfactory growth, numerically and in the scientific character of its work, nevertheless, we must confess that it is still embryonic and far below the possibilities as judged by other similar societies in some other cities. It seems to me that during the current year we have approached the parting of the ways, that the future of our society as a power in the community depends largely on what action shall be taken in the coming year by its present membership. This decision has been forced upon us at this time, and, I think, happily so; but whether we are to be retrogressive or progressive, picayune or powerful, a side-issue or an entity, will be decided by the care and good judgment exhibited by us in grappling with the situation. Once within my recollection the sturdiness and courage and far-sightedness of our older members guided our society through a crisis which threatened destruction; now these same qualities must be manifested by every one of us in order to raise our society to the plane it needs must occupy—that of a truly scientific body, self-teaching and diffusing its knowledge throughout its legitimate radius. To do this we must provide our individual members with a larger opportunity, and any sacrifice we may be called upon to make thereby I am sure will redound to our personal advantage tenfold. To be more specific: Eight or ten years ago, with a small membership and a meagre library, struggling for existence, a proposition was made to the Public Library Board, then just occupying this building, that the Hennepin County Medical Society be permitted to hold its meetings here, and that it donate its library to the public library with the proviso that each party give an equal sum yearly (namely, $150.00), to be expended in maintaining and increasing such department. Under such agreement we still exist, but the arrangement has grown to be satisfactory to neither the library nor to us, and the Library Board has recently ordered its annulment. And now comes the serious consideration, what next? Several plans have been proposed, but after deliberation with your executive committee, I would outline the following as best meeting the situation at the present time and as laying a found-

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*Annual address, delivered June 4, 1900.

ation for the future growth which I feel certain is the destiny of our society.

(a) In the first place, as a permanent organization, it seems only proper that we should own our place of meeting; if not as property owners, at least in the sense that a tenant holds the house he rents, where the members would not be trespassers at all others times except at our stated monthly meetings. This I think would add dignity and stability to our society, and at the same time favor a closer acquaintance and friendship of the individual members, and thus redound to our mutual comfort and support.

(b) In the second place I am sure that those of you who have attempted to submit to this society a paper worthy of consideration, or who for any other reason have attempted to make personal investigation have felt the need of larger and more convenient opportunities than are available under the present arrangement. Furthermore, I feel certain that any arrangement which is under any domination not professional or not our own cannot in any way be made to meet our needs in a satisfactory manner. Therefore, I would recommend that the society by all means acquire and possess its own library; that it provide a suitable depository for it; and that it formulate such rules for its management as will allow of its serving the best and fullest interest of its members in their scientific work.

(c) Finally, the only impediment to the realization of such a plan is the one of expense—can we acquire a yearly income sufficient to make it feasible? It is my opinion that we can; for if the propositions formulated below can be worked out, the expense will not be great, nor bear heavily on the individual:

1. A central location to be obtained in one of the office buildings free of expense. Dr. Hunter submitted one offer in our last meeting; and I herewith submit one from the Masonic Temple.

2. A care-taker of our rooms and library is essential, and here again Dr. Hunter has a plan whereby the cost of this will be reduced to a minimum.

3. At present three hundred dollars is expended in increasing the medical department of the Public Library, one hundred and fifty of which is provided by us. To meet this and other expenses it is recommended that the annual dues be increased to a suitable amount. This may appear at first thought as a hardship to the individual, but in reality it is quite the reverse. All of us, in order to keep only moderately abreast of the restless activity and progress of our profession, not only for scientific, but much more so for the practical needs of our every day practice, find it obligatory to subscribe to a number of the current medical journals and to books of reference and late text books. Now, if these books and journals are made available to us, unhampered by obnoxious restrictions, and especially easy to get at, we can all readily appreciate that not only will each of us thereby acquire a much larger and more valuable working library than almost any of us could hope single-handed to possess, but (and this is the point I wish you particularly to observe) also, the saving of the expense of only one subscription of a first class journal or reference book, will meet and maybe more than meet, this added individual expense. With 150 present active members and the great probability of a fair yearly increase, especially as membership will thus become of much more value than at present, it appears certain beyond the peradventure of a doubt that a sufficient income can easily be vouched for.

If some such plan as that outlined above becomes an accomplished fact, I know the value of our meetings will be enhanced, a source of strength will be infused into the Hennepin County Medical Society, and membership therein will assume a new value and be very much more worth while. Therefore, I would suggest, inasmuch as it is tolerably certain that the present conditions cannot long obtain, that this matter be given serious consideration, that possibly a special committee be appointed, and that it be instructed to report to a special meeting called for this sole purpose. To meet any technical objection to raising the annual dues, I would refer you to Section 2, Article 3, of the by-laws, which provides for an equal assessment for necessary expenses.

PROGRESS OF RENAL SURGERY.

The subject proper of my address this evening is the "Progress of Renal Surgery." I have selected this subject, not because I wish to pose as an expert, for I confess that until very recently the ground I cover was to me an almost terra-incognita, nor yet because I have some new thing to say or new proposition to enunciate, but solely because it is a new subject, and because the operators of to-day are really pioneers, where only one or two or no one has gone before, and especially because its possibilities, in new devices and for new purposes, are so startling and so fruitful of great and strange results. Very lately I heard it remarked that the coming treatment of constipation would be resection of the caecum; to most of us it would be equally startling to be told that the future treatment of acute and chronic nephritis is to be largely surgical, yet this is to-day among the probabilities of renal surgery.

Renal surgery is the product of the past thirty years. Although the kidney had many times before this been cut into for renal abscess and had even been several times unintentionally resected, and, although, as far back as 1670, extirpation of one kidney was practiced on animals to prove the competency of a single kidney to maintain life, nevertheless it was not until 1869, when Simon of Heidelburg performed the first deliberately planned nephrectomy, that a real beginning was given to this important branch of surgery. It had long been known from pathological and post mortem findings that the function of one kidney could be gradually withdrawn without disturbance to the economy, but this operation of Simon's proved that a single kidney is fully competent to maintain life, even through the shock attending so serious an operation as nephrectomy. The second planned nephrectomy was done in America by Gilmore on a woman five months pregnant, and this also was successful, the woman not mis-carrying. Following this, up to 1880, only 15 nephrectomies are on record, with a mortality of 33 1/3 per cent.; but these cases brought to light the fact that in a healthy subject with healthy kidneys extirpation is not more risky than any other capital operation. During the next few years the operation gained in favor, so that, in 1885, Gross was able to collect 250 cases with a mortality of about 44 per cent.; and at the present time the number of cases is extremely large, with an average mortality of about 20 per cent, depending more upon the disease than on the operation itself. The first nephrectomy performed in Minnesota, as far as I can discover, was done in this city by Dr. W. A. Hall, early in 1888, on a child one year old for sarcoma, the tumor weighing about three pounds. The patient, however, died on the fourth day of anuria.

Two avenues of approach have been advocated, a retro-peritoneal or lumbar, and a transperitoneal, or abdominal. The main advantages claimed for the abdominal route are greater ease on account of more room, and the ability to explore the other kidney; the main danger is the difficulty of preventing infection of the peritoneal cavity when pus is present. On the other hand,in the lumbar route, an abundance of room may be obtained by employing the oblique incision of Morris or that of König; and also the condition of the other kidney may be better appreciated by segregation of the urine either by the cystoscope or the segregator, and if this is not found sufficient then the other kidney may be explored either by opening directly over it, as advised by Edebohls, or by following the procedure of Kocher who passes his hand directly across the abdomen through a cut in the peritoneum, which is then closed before proceeding with the extirpation. At present the retro-peritoneal route is so much more in favor that it is claimed by Park that from 90 per cent. to 95 per cent. of nephrectomies are done in this way.

With the development of renal surgery the indications for nephrectomy have lessened. Extirpation indeed removes the disease, but at the same time it takes away an organ of very considerable value to the economy, and of course extirpation of both kidneys is not feasible. Moreover, it must always remain a capital operation, with a very considerable mortality; and therefore, from the very beginning, it has been endeavored to obviate the risk and the mutilation by the substitution of other procedures which may as successfully remove the diseased condition. From these endeavors have arisen the operations of nephrotomy, nephro-lithotomy, nephrorrhaphy, partial resections, and ureteral operations—these being preëminently operations of conservatism.

NEPHROTOMY.

Although large fluctuating tumors pointing in the lumbar region had been many times punctured and incised by the thermo-cautery, yet free incision and exploration of kidney tissue had been prevented by the fear of dangerous and uncontrolable hemorrhage and of the persistence of urinary fistulæ. In 1870 Bryant first cut into the kidney for tubercular pyonephrosis, but his patient died. In the same year Lente and Barbour each did a nephrotomy for calculus; no stone, however, was found, but both patients recovered. During the next decade probably a half dozen cases were nephrotimized, all for pyo-nephrosis, and from four of them stones were extracted.

NEPHRO-LITHOTOMY.

All of the above cases presented a tangible lumbar swelling. In 1880 a further advance was made. Guided simply by the symptomotology, in this year, Morris of England cut into an undistended,and to the naked eye,healthy kidney and extracted therefrom a calculus weighing thirty-one grains. This he did in a deliberately planned operation for stone, and his patient recovered without an urinous fistula. This operation marks a very important epoch in the advance of renal surgery; it proved that incision through a thick layer of healthy kidney parenchyma did not bleed dangerously, that the incised surfaces healed completely, that, therefore, urinary fistula was not to be feared, and that, consequently, early exploratory operations upon the kidney were justifiable and to be recommended. At present the mortality from incision into the apparently healthy kidney, whether stone is present or not, is not over three per cent. In operating the following technique is recommended.

(1) The oblique incision from below the twelfth rib at anterior border of the erector spinæ muscle to one inch above and in front of the anterior superior spine of the ilium; this may be extended backward to reach the twelfth rib, or forward parallel to Poupart's ligament to reach the ureter.

(2) The kidney is completely detached from its investing fibro-cellular capsule.

(3) The pelvis of kidney and ureter are carefully palpated.

(4) The kidney is bodily delivered on to the surface of loin, but without forcibly pulling on pedicle; if this is not possible, then a large incision so as to have complete visual control.

(5) Incise the convex border of kidney and insert finger and explore; this incision goes into pelvis and may extend from pole to pole. Needling is uncertain and ought to be abandoned.

(6) Always pass catheter through ureter clear to bladder whether a stone is discovered or not. If ureter cannot be entered through the incision in convex border, then open posterior surface of pelvis, this cut being subsequently closed with a Lembert suture.

(7) If parenchyma is apparently healthy, it may be finally sutured, according to Morris, but Fenger warns against suture in all cases of stone.

(8) Always drain wound, but do not carry tube into the kidney itself.

(9) In simple cases healing is complete in 11 or 12 days, but where there is much disorganization 5 or 6 weeks may be required. (Morris, Hunterian Lectures, 1898.)

Very recently renal surgery has entered the domain of internal medicine in the treatment of non-suppurative nephritis as evidenced by albuminuria, haematuria, etc. The cases treated prove either that only one kidney may be involved in these inflammatory processes, or that the two kidneys are so intimately connected through the sympathetic nervous system that operation on one influences favorably the other. In the Annals of Surgery for August, 1889, Tiffiny of Baltimore reported a case of intense and recurring nephralgia of several years' duration, and in which he diagnosed presumptive tension; in this he did a nethrotomy, laying open the parenchyma and splitting the capsule for three inches, and obtained a prompt cure, permanent at the end of four months. Reginald Harrison in 1896 reported three cases in which albuminuria completely disappeared after splitting the capsule; these cases followed respectively scarlet fever, exposure and the grip. Newman also reports two cases of cessation following nephrotomy. In all of these the albumen was evidently due to abnormal tension within the capsule. Harrison, in his paper, advises nephrotomy in scarlatinal cases whenever the condition is desperate or long persistent. Lilienthal, in 1896, reports a case of acute ascending suppurative nephritis (surgical kidney), in which there were a number of distinct abscesses in both kidneys. All of these abscesses he incised, and, although it had always been taught that this condition is absolutely fatal, nevertheless the patient made an excellent recovery. This is the only successful case I have been able to find reported, although Gerster, of New York, repeated the procedure unsuccessfully. In 1895 (reported in 1897) Gerster, of New York, performed nephrotomy for continuous, persistent and uncontrollable hematuria of three weeks standing in a young woman previously healthy. He found an acute, non-suppurative nephritis and the patient made a perfect recovery. In 1899 Israel reported fifteen cases of nephrotomy for anuria, nephralgia, haematuria, etc., in which the results were remarkable. These cases seem to promise much for the future, and apparently open the way for a more hopeful and succcessful treatment of suppurative and non-suppurative nephritis than can be offered by internal medication.

TRAUMATISMS.

Extensive lacerations of kidney tissue, and especially wounds of the renal vessels, have been considered as positively indicating nephrectomy. Bobroff, however, experimented on animals and proved to his own satisfaction that there was no danger of either suppuration or necrosis following ligation of the renal vessels. He, therefore, in 1892, advocated such ligation when life was threatened by hemorrhage from the kidney. Very recently (Sept. 1899) Alessandri reported his very interesting experiments on dogs and cats. He exposed the kidney, and in some tied the renal vein alone, in others the renal artery alone, and in still others both the vein and artery. When the vein alone was occluded, there was no necrosis, but, on the contrary, the repair of tissue and the return of function was so complete that it was possible to excise the other kidney at the end of three months. When the artery alone was tied, there was necrosis in the cats, but perfect return of function in the dogs; and when both vessels were ligated, although there was necrosis of the secreting epithelium, yet the collateral circulation sufficed to prevent rapid disintegration, and there was simply a progressive cirrhosis of the interstitial connective tissue. Now as the anastomotic circle is more extensive in man than in dogs it is fair to presume, from these experiments, that in man also the renal pedicle may be in part or in whole successfully tied in severe hemorrhage, etc., thus avoiding much of the danger of nephrectomy. Keen gathered statistics of 117 cases of injury of every sort, with a general mortality of 42 per cent., and found that the mortality was 25 per cent less among the cases operated on than among those treated expectantly. It is, therefore, a safe rule to always explore where symptoms of severe renal injury are present or there is danger of sepsis. (Annals Surgery 1896.)

PARTIAL RESECTIONS.

It having been conclusively proved that hemorrhage may be controlled and also that kidney tissue heals kindly, it was but natural that the attempt should be made to save as much of the kidney as possible in cases of localized disease. Tuffier, in 1888, made some experiments on dogs to ascertain the amount of secreting tissue necessary for life. He first removed one kidney, and subsequently resected more or less of the other and proved the important fact that only between one-third and one-fourth of the total secreting area is essential.

The first partial resection on record is that of Czerny, who in 1887 exsected an angeio-sarcoma, leaving part of the kidney tissue. The second is that of Tuffier in 1889, in which he got primary union of renal tissue after exsection of a urinous fistula. He subseqeuntly in 1895 reported five cases, two of benign tumor, and one each for cyst, pyonephritis and traumatism. In these cases he employed the lumbar route, stripped off the fatty capsule, compressed temporarily the pedicle (which by the way may be subjected to such compression for one-half hour without danger of tissue degeneration), and finally sutured the parenchyma. He however warns against attempting enucleation when the tumor is very adherent, or infiltrating or close to hilum.

Morris, in 1892, scraped out six caseous cavities, packed and got healing; and in 1895 exsected three wedges of tubercle, primary union following suture, and the patient reporting in perfect health two and one-half years afterward.

In 1897 Dr. Nash of New South Wales removed three-eighths of a kidney, detached by kick of horse, the child recovering without untoward symptoms. In 1895 Dr. W. A. Hall of this city resected about one-third of kidney for a long standing urinous fistula, the patient recovering promptly but without cure of fistula. In 1898, A. F. Jones resected a whole right adrenal with recovery, but subsequent experiment proved that both adrenals cannot be removed (Annals Surg., Apr., 1898.) Up to the present year more cases have been recorded, and there seems to be no reason why partial resection should not be more extensively employed in dealing with benign tumors, cysts, tubercular lesions and traumatisms.

NEPHRORRHAPHY.

In the early days of renal surgery floating and movable kidney offered one of the indications for nephrectomy. Martin in 1878 four times successfully removed a healthy kidney for this condition, and up to 1885 thirty cases were recorded with a mortality of 30 per cent. (Newman, "Renal Surgery.")

Hahn of Berlin, in the hope of doing away with the necessity of nephrectomy for this purpose devised the operation of stitching the fatty capsule to the lumbar parietes, thus anchoring the kidney in the normal position. This is the operation of nephrorrhaphy or nephropexy, which was originally performed by Hahn in April, 1881, and which has now entirely supplanted nephrectomy for healthy movable kidney. His conception was perfect, but the technic was deficient and the success attained not satisfactory. Various modifications have been introduced from time to time by different operators, but even now the operation is not entirely satisfactory, and about 15 per cent of relapses are recorded. It was early found that suture of the fatty capsule was insufficient, and Hahn himself recommended that the capsullea propria be split and utilized for suturing to the parietes.

Morris, who does not split nor scarify the capsule, passes the sutures directly and deeply through the parenchyma, using three stitches of fine silk. In fifty-seven cases he has had no mortality, has never seen any irritation of kidney tissue from sutures, and has had a large percentage of success. Tuffier of Paris, in 1889, advised stripping off the capsule more or less, and suturing it to the parietal tissue, the sutures not entering the parenchyma, and thus attempting to get firm union of the bared parenchyma to the wall. In some cases, to better replace the kidney in its normal position behind the 11th rib, the 12th rib has been resected and the sutures passed through the 11th intercostal space and periosteum.

In 1895 Valliet of Geneva suggested and Poullet of Lyons adopted a new method of fixation, in which a long strip of the tendon of the erector spinæ muscle is detached, passed under the renal capsule, and reattached to the erector muscle. In December, 1897, Senn reported a method without sutures, he claiming that the sutures are liable to cause serious damage of renal tissue. He excises the perirenal fat, scarifies freely the proper capsule, passes a temporary sling of iodoform gauze under the inferior pole which pulls the kidney into place, ties this over the gauze packing, applies pressure in front over the abdomen, and insists on the recumbent posture for a long time. The sling is removed about the 11th day, but the patient not allowed to assume the upright position for six weeks.

Deaver, in June, 1899, modifies the same operation by using two slings, one under each pole, and reports nine cases cured. In his remarks against passing sutures through the renal parenchyma, he bases his objection on the following: (1) That there is danger of urinous infiltration, one case being nephrectonized for this mishap, and (2) on the fact that the sutures cut out, as may be proved by holding up a detached kidney by a silk suture. He thinks the anchoring is the result of the handling, etc., leading to inflammation and granulation. If necessary he delivers the kidney onto the loin. Dr. Dunn of this city performed one operation after the method of Deaver a few weeks ago,—it was easily done and the result was satisfactory.

Nephrorrhaphy is much more frequently advised and performed now than formerly, as it is now well recognized that movable kidney frequently leads to irreparable damage to the renal tissue, through kinking of the ureter and torsion of the vessels—resulting in congestion, hemorrhage, hydronephrosis and pyonephrosis.

URETERAL SURGERY.

The most recent advance and one which promises most beneficent results has to do with the surgery of the renal duct. Any condition which interferes with the natural and continuous flow of urine from the kidney to the bladder becomes at once a serious matter, affecting injuriously not only the kidney but the whole organism, and may be incompatible with the continuance of life. Such interference may result either from obstruction in the ureter (a rare condition), as by impacted stone or by stricture, or from solution of continuity of the ureter by traumatism. Although the surgery of the ureter extends back half a century, it assumed importance only since the advent of pelvic surgery, for the reason that the vast number of operations in the pelvis has been a prolific cause ~~of ureteral~~ injuries, it being estimated that in every hundred hysterectomies alone the ureter has been tied or cut in at least three. The ends aimed at have been various to meet the varying pathological conditions, but they all have for their object the preservation of the kidney through the avoidance of nephrectomy. The highest conservatism is attained when the stream of urine is successfully carried from the kidney to the bladder, and various operations and experiments have striven to accomplish this, a few cases being carried to a successful issue. A less perfect result is aimed at when the urine is diverted to some other viscus but is still under the control of the will to evacuate at pleasure. The least desirable result is that which deviates the urine to the surface through a fistula, for this, though compatible with life, may make it so miserable as to be of little value. In a few cases, where the functioning kidney is already absent through disease or excision, the end aimed at is merely to rid the economy of a suppurating sinus, and this is best attained by a total or partial ureterectomy.

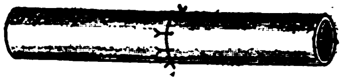
FIG. 1.—Method of Schopf, Hochenegg, and Cushing.

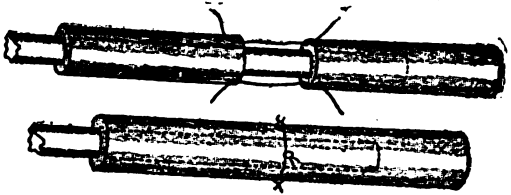
FIG. 2.—Method of Tauffer.

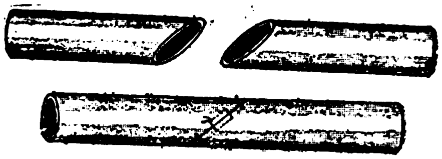
FIG. 3.—Method of Bovée.

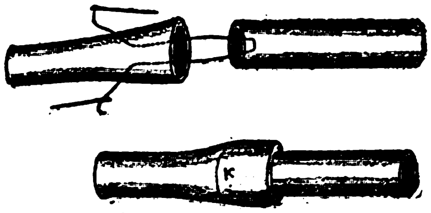
FIG. 4.—Method of Poggi.

The operations which have been devised and executed (frequently upon animals, a few times on the human subject) are:

(1) Ureterotomy, with or without suture;

(2) Grafting onto skin or into the bladder or bowel;

(3) Uretero-ureteral anastomosis;

(4) Ureterectomy.

The first operation on the ureter was done in 1851 by John Simon of London for exstrophy of bladder, and consisted in implantation of both ureters into the rectum; but calculi formed at the point of implantation and the patient died after a year. This was repeated shortly afterward, but death occurred in a few days from peritonitis. Nothing further was done until 1876, when Nussbaum successfully diverted the urinary stream into the bladder from a subparietal urinary reservoir by means of a connecting fistula between the two. In 1879 T. A. Emmett of New York, through the vagina, extracted a stone from the lower end of the ureter, sutured the opening, and the patient recovered without a fistula.

In 1882 Bardenheuer extracted a stone impacted in upper end of ureter and causing calculus anuria; but the urine did not find its way into the bladder, and he was forced to establish an external fistula.

In 1885 Collingworth removed a stone from the ureter through the abdomen, and in 1887 Ceci removed seven through the rectum. Both patients, however, died.

In 1889 Kirkham (Lancet, 1889) extracted a stone from the ureter just above the pelvic brim, by the retro-peritoneal route, sutured the wound, and recovery without a fistula resulted.

In 1895 Roberts (Annals of Surgery, 1895) did a transperitoneal ureterotomy for impacted calculus, sewed up ureter with fine silk and the peritoneum with catgut, and the patient made an uneventful recovery.

In 1893 Fenger extracted a stone post-peritoneal, drained without suture and the sinus healed without stricture of ureter.

In 1898 Brooks extracted a stone projecting into the bladder with a lithotrite; and Kelly in March of this year (1900) dilated the bladder end of the ureter, allowing an impacted stone to be passed without cutting operation. A diagnosis of stone in this case was made by passing small ureteral sounds, olive-tipped with a mixture of wax and sweet-oil, which showed fine scratches under magnifying glass.

URETERO-PLASTY

has been successfully employed for the cure of stricture. Simon in 1876 first suggested it, and Trendelenberg in 1890 made the first attempt; but Fenger performed the first successful operation in 1892. This was a case of intermittent hydronephosis in a floating kidney, due to valvular stricture at the top of the ureter. This he cut through and sutured after the Heinecke-Mickulicz method, and in November of the same year (1892) he repeated this procedure for a half inch traumatic stricture imbedded in cicatricial tissue. Both of these cases recovered without fistula, and with no return of symptoms. Herman Mynter of Buffalo in August, 1893, and Morris in February, 1898, had each a successful case, also without fistula or return.

Not only has a stricture been cut through, but a portion of the ureter including the stricture has been resected and the distal end of the duct sutured to the renal pelvis. This was first done successfully in May, 1891, by Küster, thus antedating Fenger's case of ureterotomy by a whole year. Cramer of Cologne in 1893 did a similar operation for hydronephrosis, and again in 1894 for pyronephrosis, both of which recovered with a non-urinary fistula. Küster's case is important, not only in being the pioneer case of uretero-plasty, but also because it serves as a warning to attempt, if possible, the more conservative operations, the sequel showing that the patient had only the one kidney. As evidencing the rapid growth and progress of renal surgery, in 1891 Terrier and Bandonin recommended nephrectomy for persistent intermittent hydronephrosis, whereas in the Hunterian Lectures for 1898 Morris says: "In every instance where the conditions are not actually unfavorable, the attempt ought to be made to preserve the kidney by means of a plastic operation." In operating on the ureter retro-peritoneally it is well to bear in mind the anatomical fact that the duct is more adherent to the peritoneum than to the cellular tissue behind, and that therefore it is lifted with the peritoneum in stripping; also that just beyond the ureter towards the middle line the peritoneum and subperitoneal tissue are closely adherent. Therefore if the peritoneum is stripped as far as it gives easily and then search is made one-half to one inch externally, the duct is readily recognized.

URETERO-URETERAL ANASTOMOSIS.

The rise of pelvic surgery added a new problem—viz.: what course to pursue after accidental tying or cutting the ureter. In 1889 Bardenheuer and Schmidt, writing from an experience of thirty-five cases during the preceding ten years, concluded that traumatism to the ureter demanded nephrectomy; and even in 1893 this procedure still held out the best prospect of cure; but Baldy, writing in October, 1896, classes nephrectomy, together with ligature and cutaneous implantations, as ancient history, and strongly advises against these operations. To avoid the necessity of nephrectomy in these injuries various operative measures have been devised, all having for their object either the normal reëstablishment of the urinary stream into the bladder, or else its diversion to some hollow viscus where its evacuation will still be under voluntary control. The ideal operation, if it can be done quickly, easily and safely and with satisfactory remote results, is an anastomosis between the proximate and distant parts of the ureter. This however cannot always be attempted, as from too great loss of tissue, etc., and then resort must be had to implantation into the bladder, if possible, or into the rectum, or into the opposite ureter or renal pelvis.

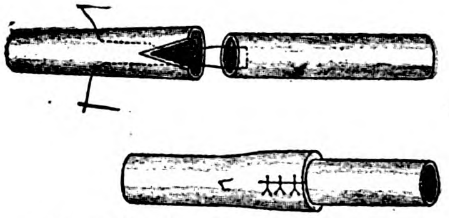

FIG. 5.—Method of Mayo Robson and Winslow.

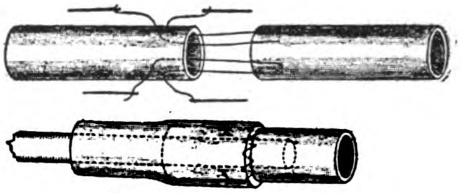

FIG. 6.—Method of Frank Markoe.

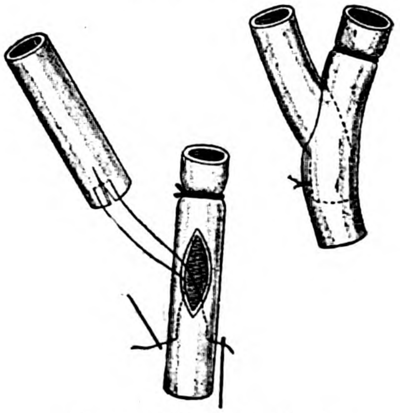

FIG. 7.—Method of Van Hook.

In 1886 Schopf of Berlin performed the first uretero-ureteral anastomosis on the human subject. This was an end-to-end approximation, without support, care being taken not to include the mucous membrane in the sutures. The patient died after seven weeks, the autopsy revealing stricture of the ureter at the point of suture and consequent hydronephrosis.

In this same year Poggi of Italy devised an end-in-end invagination, without support, which he performed on animals with marked success. They all recovered, and when afterwards killed, the ureter, although much smaller than in man, was found normal in calibre and with mucous surface regenerated. These experiments proved that the ureter could not only be sutured, but that it could be done without subsequent stricture. Budinger attempted Poggi's operation in three human subjects, but always with fatal result from leakage. In 1892 Van Hook of Chicago published a new method which is done quickly and does not result in stricture. In this the two ends are dissected free; the distal end is tied and a longitudinal incision, twice the diameter of the tube, made in its wall; the upper segment is then also incised longitudinally for one-fourth of an inch from the end and a double catgut suture passed through this (opposite slit) and from without inward; the ends of this suture are then carried through slit in lower segment and made to emerge a half inch below. Traction on this suture then invaginates the proximal segment into the lateral wall of the distal segment, the suture being tied tightly. A few lembert sutures then complete the union. Finally the ureter is entirely enveloped in peritoneum, or surrounded by omentum. Three successful cases by this method have been performed on the human subject, the operators being Kelly of Baltimore (May, 1892), Bache Emmett of New York, and Doherty of Georgia. In his paper Van Hook points out the very important and practical fact, "that the lumen of the ureter can be enormously increased by stretching without prejudice to the integrity of its walls."

In 1895 Bovee devised still another and an original method, designed also to obviate the danger of stricture. This is an end to end approximation without support, but, unlike Schopf's, the ends are so obliquely cut as to prevent any narrowing. Bovee himself once performed this operation on a human subject, and the result was immediate and remote success.

In 1897 (Annals of Surgery, 1899) Frank Markoe of New York did an end-in-end invagination over a catheter as support, 24 hours after injury, the catheter being brought into the bladder and out through the urethra, and held in place for five days. Result was perfect.

In all, four distinct methods of anastomosis of the ureter with various modifications have been employed:

I. Transverse end-to-end approximates,
  (a) Without support;
    Schopf, 1886.
  (b) With support;
    Tauffer, 1898.
II. Oblique end-to-end approximation;
    Bovee, 1895.
III. Lateral implantation;
    Van Hook, 1893.
IV. End-in-end invagination;
  (a) Without support;
    Poggi, 1886.
  (b) Without support, but split end of ureter.
    Mayo Robson & Winslow.
  (c) With support;
    Markoe.

These various methods will be best appreciated from the accompanying illustrations, which have been reproduced from the paper of Dr. Frank Markoe, published in the "Annals of Surgery," June, 1899.

Altogether there have been performed fourteen operations, with only two deaths, a showing that is remarkable, when we remember that most of them necessarily came at the end of already serious operations.

If the injury is quite close to the bladder, or if the loss of tissue is too great to allow of anastomosis, then implantation into the bladder will be advisable. This may even be done if the end of the proximal segment lies above the plane of the pelvic brim.

In 1895 Krause reports a successful case with the following technic. He passed a long forceps into the bladder through the urethra, opened the bladder wall on this, pulled in the ureter and sutured, the sutures not including the mucous membrane. In 1896, Kelly repeated Krause's operation with the added feature of separating the bladder from the pubis in order to lift it up. By this he gained over an inch and his case was successful.

Westermark had a success, although he was obliged in addition, to resect and repair a piece of the bladder wall. Baldwin relieved the tension by lifting up the bladder and suturing it to the stump of the broad ligament.

Surely the lesson to be learned from these cases of surgery on the ureter is that in simple transverse cut, without too great loss, nephrectomy is no longer to be considered justifiable.

If, however, the conditions are not favorable either for approximation or bladder-implantation, then nephrectomy may be debated as a primary operation, and is still the safest. Yet even here an improved bowel implantation may make it possible in the future to avoid sacrificing the kidney. The danger in grafting the ureter into the intestinal canal is the production of an ascending infection, resulting in pyonephrosis, the mortality in the thirty recorded cases being about thirty per cent. The idea aimed at in bowel implantation is the artificial production of sphincteric action so as to prevent retrograde currents from the bowel to the ureter.

In 1899 F. H. Martin of Chicago published an ingenious method of rectal implantation, copying somewhat after Van Hook's lateral ureteral anastomosis. He imbeds about an inch of the ureter in the circular muscular layer of the rectum, in this way claiming to get sphincteric control. He reports a number of dog operations and three upon the human subject, one of whom survived four years, but gives no detailed statistics.

URETERECTOMY.

Extirpation of the ureter either in part or totally, is an operation of the last decade, being first performed partially in 1891 by Tuffier, and totally in 1892 by Regnier. Its purpose is to rid the economy of a long suppurating sinus, and it may be executed through a prolongation forward of the usual oblique lumbar incision.

DIAGNOSIS.

Of equal importance with the advances in the operative technic is the progress made toward more accurate diagnosis. The points to be considered are:

(1) Are the symptoms urinary;

(2) Is the lesion below in the bladder and urethra or above in the ureter and kidney?

(3) If in the kidney, which side is at fault?

(4) Further, what is the condition of the other kidney?

(5) What is the lesion?

At first thought it would appear comparatively easy to diagnose fairly accurately these various propositions, but in actual practice we all know it is often extremely difficult. For instance a prominent London surgeon, called upon to cure a urethro-vaginal fistula by nephrectomy, cut down through the abdomen upon the suspected ureter and compressed it for a prolonged period. No urine passing the fistula he removed the kidney, yet the following day urine again dribbled from the fistula as before. The exploratory operation had caused temporary suppression.

I had purposed outlining the development of cystoscopy and ureteral catheterization and urine segregation, but I shall have to forego this, as my paper has already overreached its limits In reading this over I found that the effort to compress a large field in a small space has resulted in producing a fragmentary and rather disconnected address. This I hope you will overlook and forgive. Finally I wish to summarize what I have tried to make the central idea, viz., that, although renal surgery had its origin in nephrectomy, yet, step by step, its advance has been toward conservatism, the effort being made, in many phases of nephritic disease, to preserve, when possible so important an organ as the kidney to the economy. This has been aimed at in early nephro-lithotomy for calculus; in partial resection in tubercular disease, benign tumors, and monolocular cysts; in ureteral anastomosis and implantation for injury and obstruction and permanent fistulæ; in nephrorraphy for movable kidney; in nephrotomy for relief of tension in acute and chronic nephritis; and yet in a bold hand when necessity requires it. In renal surgery our watchword should be, I think, "Early exploratory incision," for this will in the end prove conservative, as by it many a kidney may be saved before irretrievably damaged.

Masonic Temple, Minneapolis.

SOME DISEASES OF THE INTESTINES, ASSOCIATED WITH CATARRHAL ENTERITIS. THE PRINCIPAL FEATURE OF THEIR ETIOLOGY, MORBID ANATOMY AND TREATMENT.

By H. Jefferson Obrien, M. D., West Superior, Wis.

The majority of writers in their classification of the various diseases of the intestines, it seems to me, follow too closely the anatomical divisions, and I venture to say that the average physician does not distinctly recognize the differentiation between duodenitis, ileitis, jejunitis, typhilitis, colitis and proctitis in his every-day practice. In the majority of cases the entire intestinal tract, to a greater or lesser extent, is involved. Sometimes it is the small, most intensely, and, sometimes, the large bowel; and, during life, it may be quite impossible to say which portion is especially affected.

The etiological factors may be primary or secondary, and, among those of the former, improper food is one of the most frequent, especially in children, in whom it follows over-eating, or the ingestion of unripe fruit is the cause. In some individuals special articles of diet will produce diarrhea, which may not be due to catarrh of the mucosa, but to increased peristalsis induced by the offending material, various toxic substances, and many of the organic poisons, such as those produced in the decomposition of milk and articles of food which excite the most intense intestinal catarrh. Changes in the weather, a fall in the temperature of from twenty to thirty degrees, particularly in the spring or autumn, may induce an acute diarrhea; how, it is difficult to say. We speak of this as a catarrhal process, the result of cold or chill. On the other hand, the diarrheal diseases of children are associated in a very special way with the excessive heat of summer months. Changes in the constitution of the intestinal secretion also excite this condition. We know too little, however, about the succus entericus to be able to speak of influences induced by changes in its quality or quantity. It has long been held that the increase in the amount of bile poured into the bowel might excite a diarrhea; hence, the term bilious diarrhea, so frequently used by the older writers. Possibly there are conditions in which an excessive amount of bile is poured into the intestines, increasing the peristalsis and hurrying on the contents, but the opposite state—a scanty secretion, favoring the natural fermentative process—much more commonly causes an intestinal catarrh. Absence of the pancreatic secretion has been associated in certain cases with fatty diarrhea.

It is by no means clear how mental states act upon the bowels, and yet, it is an old and trustworthy observation, which every day experience confirms, that the mental state may profoundly affect the intestinal canal. These influences should not properly be considered under catarrhal processes, as they result simply from increased peristalsis or increased secretion, and are usually described under the heading of nervous diarrhea. In hysterical women it is seen as an occasional occurrence, due to transient excitement, or as a chronic protracted diarrhea, which may last for months or even years.

Secondarily, causes of intestinal catarrh may be mentioned. Infectious diseases, peritonitis, dysentery, typhoid fever, pyemia and septicemia are occasionally associated with intestinal catarrh. In dysentery and typhoid fever the ulceration is in part responsible for the catarrhal condition. The extension of inflammatory processes from adjacent parts, as in peritonitis, catarrhal swelling and increased secretions, is always present in the mucosa. The morbid anatomy is largely suggestive of this; changes in the mucous membrane are not always visible; and, in cases in which during life the symptoms of intestinal catarrh have been marked, neither redness, swellling, nor increased secretion, the three signs laid down as characteristic of catarrhal inflammation, may be present post mortem. It is rare to see the mucous membrane infected; more commonly it is pale and covered with mucus. In the upper part of the intestines, the valvulæ connoventes may be deeply injected. Even in extreme grades of portal obstruction intense hyperemia is not often seen. The entire mucosa may be softened and infiltrated, the lining epithelium swollen, or even shed, and appearing as large flakes among the intestinal contents. This is no doubt a post mortem change. The lymph follicles are almost always swollen, particularly in children. Peyer's patches may be prominent and the solitary follicles in the large and small bowel may stand out with a distinctness and present in the centres little erosions—the so-called follicular ulcers. This may be a striking feature in the intestine in all forms of catarrhal enteritis of children, quite irrespective of the intensity of the diarrhea. When the process is more chronic the mucosa is firmer, in some instances thickened, in others, distinctly thinned, and the villi and follicles present a slaty pigmentation. Acute and chronic forms may be recognized. The important characteristic of both is diarrhea, which in the majority of instances is the sole indication of this condition. It is not to be supposed that diarrhea is invariably caused by or associated with catarrhal enteritis, as it may be produced by numerous other influences.

It is probable that catarrh of the jejunum may exist without any diarrhea, and it is a very common circumstance to find post mortem a catarrhal state of the small bowel in persons who have not had diarrhea during life. The stools vary in character; the color depends upon the amount of bile with which they are mixed. Microscopically there are numerous micro-organisms, epithelium and mucous cells. Pain in the abdomen is usually present in acute catarrhal enteritis, particularly when due to food. It is of a colicky character, and when the colon is involved there may be tenesmus. Tympanitis exists and there are gurgling noises, due to the rapid passage of fluid and gas from one part to another. Fever, as a rule, is not present; however, there might be an elevation of one or two degrees. There is intense thirst, and the tongue is dry and coated. The number of evacuations varies from four or five to twenty or more during the day. The attack lasts for two or three days, or may be prolonged for a week or ten days.

Chronic catarrh of the bowel may follow the acute form, or may develop gradually as an independent affection or as a sequence of obstruction in the portal circulation. There are no positive symptoms by which the diagnosis of duodenitis can be made. It is usually associated with gastritis, and if the process extends into the bile duct with jaundice, and neither jejunitis nor ileitis can be separated from general intestinal catarrh. We may recognize three forms of enteritis in children: the acute dyspeptic, cholera infantum and acute entero colitis. The diarrheas of children are most frequent in those artificially fed, and the greatest number of cases occur between the ages of six and eighteen months. A popular and well-founded belief ascribes special danger to the second summer of the infant. We are all familiar with the prevalence of infantile diarrhea among the poorer classes in large cities. It attacks, however, children with the most favorable circumstances. Two factors largely influence the disease—diet and temperature. An immense majority of all fatal cases are artificially fed. Of 1,943 fatal cases, gathered from recent statistics, only three per cent were breast fed. Among the poor the bowel complaints in children begin with artificial feeding.

The relation of temperature to the prevalence of diarrheal diseases in children has long been recognized. The mortality begins to rise in May, increases in June, reaches the maximum in July, and gradually subsides through August and September. The maximum corresponds closely to the highest mean temperature; yet, we cannot regard the heat itself as the direct agent, but only one of the several factors. The mean temperature of June is only four or five degrees lower than that of July, and yet the mortality is not more than one-third. In the City of New York a careful analysis of the mortality and the temperature has been made month by month for ten years, and a constant relation between the degrees of heat and the number of cases of diarrhea was not found, neither barometric pressure nor humidity appearing to have any influence.

The feces of sucklings contain a number of bacteria and micrococci, the most important of which are the bacterium lactis aerogenes and the bacterium coli communis. The former is only present in the intestine after a milk diet, the milk sugar apearing to furnish the materials necessary for its growth. It occurs more in the upper portion of the bowels, and in this region excites the fermentative processes in the milk. The bacteria coli communa are found more abundant in the lower portion of the small intestine and in the colon, and excite fermentative changes which are probably associated with certain phases of digestion. Recent observation shows the remarkable simplicity of this bacterial vegetation in the healthy feces in milk fed to children as these two alone develop and are constant. In infantile diarrhea the number of bacteria which may be isolated from the stools is remarkable. As many as forty varieties have been discriminated, the greatest number of which being found in the cases of cholera infantum. The two constant forms noted elsewhere do not disappear in the diarrheal stools. No form has been found to bear a constant or specific relation to the diarrheal feces, such as the two above mentioned do to the healthy milk feces. The bacteria of the proteid group are most frequent and possess pathogenic properties.

We find most frequently a catarrhal swelling of the mucosa of both the large and small bowel, with enlargement of the lymph follicles. In more chronic cases the latter show small erosions or follicular ulcers, more rarely there is croupous enteritis affecting the lower part of the ileum and colon. The changes in the other organs are neither numerous nor characteristic. Broncho-pneumonia occurs in many cases, and the spleen may be swollen. Brain lesions are rare. The membranes and substances are often anemic, but meningitis or thrombosis is very uncommon. In acute dyspeptic diarrhea the child may appear in its usual health, but has an increase in the number of stools, without fecal or special disturbances except slight restlessness at night. After persisting for a day or two, the stools become more frequent and contain undigested food and curds, and are very offensive. In other cases the disease sets in abruptly, with vomiting, griping pains, and fever, which rises rapidly and reaches 104 or 105 degrees; there may be convulsions at the outset. The abdomen is sensitive, and the child lies with the legs drawn up. The stools consist of grayish yellow feces, mixed with gas, curds and portions of food. In children over two years of age such attacks not infrequently follow eating freely of unripe fruits or the drinking of milk which has been tainted. With judicious treatment the child improves in a few days, but relapses are not uncommon, and in hot weather the attack may be the starting point of a severe enterocolitis. In a debilitated child a mild attack may prove fatal. This dyspeptic diarrhea is distinguished sharply from cholera infantum by the character of the stools, which never have a watery serous character. In many instances this form precedes the onset of the specific fevers, particuarly during hot weather.

Cholera infantum is the counterpart in the infant of the so-called choleraic diarrhea in the adult, and in their clinical aspect these two forms are identical. It is by no means as common as the ordinary dyspeptic diarrhea of children, and occurs in only about two or three per cent. of the cases of summer diarrhea. It is characterized by vomiting, uncontrollable diarrhea and collapse. The disease sets in with vomiting which is incessant and is excited by any attempt to take food or drink, the stools at first fecal in character, brown or yellowish in color, finally thin, serous and watery. There is fever, but the axillary temperature may register three or more degrees below that of the rectum. From the onset there is marked prostration. The eyes are sunken, the features pinched and the skin has a peculiar ashy pallor. The pulse is feeble and towards the last almost imperceptible, and death may occur within twenty-four hours. In other instances the intense symptoms subside, but the child remains torpid and semi-comatose with fingers clutched, and there may be convulsions and the head retracted, respirations interrupted, irregular and of the cheyne-stokes variety. The child may remain in this condition for some days without any signs of improvement. As a rule no changes in the brain or other organs are found, and the condition is no doubt caused by the toxic agents absorbed from the intestine. No constant organism has been found, and the disease is undoubtedly the result of the action on the system of the poisonous products of decomposition encouraged by the various bacteria present. Being a familiar disease, the clinical picture is that produced by an acute infection, as in Asiatic cholera. There is no other intestinal affection in children for which it can be mistaken. The constant vomiting, the watery discharge, the collapse symptoms and the characteristic temperature, make an unmistakable clinical picture. The outlook in the majority of cases is bad.

In acute interocolitis, the ileum and colon are most affected, chiefly in the lymph follicles; hence, the term follicular enteritis or follicular dysentery. As in the others mentioned it occurs more frequently in warm weather in artificially fed children, but it may set in at any season of the year, and is the form of enteritis most common as a secondary complication in the specific fevers of childhood. The general symptoms are similar to those already mentioned. Vomiting may be present at the outset, but is not a characteristic feature as in cholera infantum.

In a third form of enterocolitis, in which anatomically the lesions are those stated elsewhere, namely, an intense follicular inflammation. The symptoms are of a more severe character and the affection is sometimes spoken of as acute dysentery. It attacks children up to the third or fourth year. The onset is sudden, with high fever, vomiting, frequent stools, which at first contain remnants of food and feces, and subsequently much mucus and some blood. There is incessant pain which may be more severe than any intestinal affection of childhood. The prostration is very great and the fatal termination may occur within forty-eight hours.

In the treatment of the previous condition, especially in acute dyspeptic diarrhea, all solid food should be withheld. If vomiting is present ice may be given and small quantities of milk and soda water. If the attack has followed the eating of large quantities of undigestible material, castor oil or calomel is good, but is not advisable if the patient is freely purged. If the pain is severe twenty drops of laudanum and a drachm of the spirits of chloroform may be given; or, if the colic is very intense, a hypodermic of a quarter of a grain of morphia. It is not well to check the diarrhea unless it is profuse. It usually stops spontaneously in forty-eight hours. If persistent, the aromatic chalk powder or a large dose of bismuth (thirty to forty gr.) a small enema of starch (two ounces) with twenty drops of laudanum, every six hours, I find a very valuable remedy. In the chronic forms it is important in the first place to ascertain if possible the cause, and, if ulceration is present, or not. As much in treatment depends on the careful examination of the stools as to ascertain the amount of mucus and presence of pus, the occurrence of parasites, and, above all, the state of the digestion of food. Many cases require simply rest in bed and a restricted diet.

Chronic diarrhea of many months' standing, or of several years' duration, may sometimes be cured by strict confinement in bed, and a diet of boiled milk and albumen water. That form in which, immediately after eating, there is a tendency to loose evacuations it is found that some other article of diet is at fault. The patient should rest for an hour or more after meals. Sometimes this alone is sufficient to prevent occurrence of the diarrhea. In giving large injections in those intestinal affections the patient should be in the dorsal position, with the hips elevated, and it is best to allow the injection to flow in gradually from a syphon bag. In this way the entire colon can be irrigated and the patient can retain the injection for some time. The nitrate of silver injections may be very painful, but they are invaluable in all forms of ulcerated colitis. Acetate of lead, and boracic acid are serviceable in one per cent. solutions. In mucous colitis no benefit can be expected from remedies administered by the mouth. In the intense forms of choleraic diarrhea in adults, associated with constant vomiting and watery discharge, the patient should at once be given a hypodermic of one-fourth grain morphia, which may be repeated in an hour if the pain returns or the purging persists, and, at this juncture, suitable stimulants should be administered.

Hygienic management in the diarrheas of children is of the first importance. The effect of the change from the hot stifling atmosphere of a town to the country, if this be possible, is often at once attended with the reduction of fever, number of stools, and a rapid improvement in the physical condition. While it is difficult in all cases to comply with these rules, the keeping of the child in the open air as much as possible will in most cases be a valuable adjunct to remedial measures. Bathing is of much value in infantile diarrhea, and, when the fever rises above 102°, the child should be placed in a warm bath, the temperature of which may be gradually reduced. Much relief is obtained by the application of ice cold cloths to the head. Irrigation of the colon with ice cold water is used by many with good results, the beneficial effect of which is not only seen in the reduction of the temperature, but is a general stimulation to the nervous system. In the dyspeptic diarrhea of infants, practically the whole treatment is a matter of artificial feeding and there is probably no subject in medicine on which it is more difficult to lay down satisfactory rules. No doubt in a very short period, the study of the bacterial processes going on in the intestines, will give us some very important suggestions in this line.

I think there are generally recognized two well defined forms of intestinal fermentation—the acid and the alkaline. If there is much decomposition with offensive stools, the albuminous articles should be withheld from the diet and the carbohydrates given, such as dextrin foods, sugar and milk, which, on account of their sugar, rank with the carbohydrates. If there is acid fermentation, with sour, but not fetid stools, an albuminous diet is given, such as broths and egg albumen. There is probably no form of nourishment so readily assimilated and apt to cause so little disturbance as egg albumen, or the simple beef juice. One of the first indications in dyspeptic diarrhea of children is to get rid of the decomposing matter in the stomach and intestines. The vomiting and diarrhea partly affect this, but it may be more thoroughly accomplished, so far as the stomach is concerned, by irrigation. This may seem a harsh procedure with a young infant, but in reality with a large size rubber catheter it can be manipulated with but little difficulty by means of a funnel; luke warm water is passed in and out until it comes away quite clear. In the cases where I have used this simple procedure I can speak in favorable terms of the results. A reliable intestinal antiseptic is a difficult article to obtain. Salol, resorcin, the salicylates, mercury nor naphthalin meets the indications. As in the diarrhea of adults, bismuth in large doses is often very effective, but to produce good results it should be given in doses so that an infant a year old will take as much as two drahms in a day.

In cholera infantum serious symptoms may develop with great rapidity, and the incessant vomiting and frequent purging render the administration of remedies extremely difficult; here, irrigation of the stomach and large bowel is of great service, and when the fever runs high, ice water injections prove beneficial. Morphia, hypodermically, as in adults, gives great relief, and in the condition of extreme vomiting and purging with restlessness and collapse symptoms, this drug alone is par excellence. When the intense symptoms subside the food should be sparingly given, beginning with teaspoonful doses of egg albumen or beef juice. It is best to withhold milk for several days, and when first given it should be completely peptonized. The treatment of each form of intestinal disease depends upon the symptoms presented and cause, and no case can be intelligently treated in which the physician fails to recognize these important features.

COMPOUND FRACTURE OF THE ELBOW—FRACTURE OF THE PATELLA—COMPOUND FRACTURE OF THE PATELLA—SARCOMA OF THE HUMERUS, DISARTICULATION AT THE SHOULDER JOINT.

A Clinical Lecture, Delivered at St. Mary's Hospital, March 24, 1900, by James H. Dunn, M.D., Prof. of the Practice of Surgery, University of Minnesota.

Gentlemen:—This eight year old boy sustained a compound fracture of the lower end of the humerus about four weeks ago.

Upon the anterior aspect of the arm just above the elbow you observe the scar resulting from the wound caused by the protrusion of the sharp upper fragment. The lines of fracture were transversely across the humerus just above the condyles with splitting of the latter; it is the so-called "T" fracture into the elbow joint.

He has been treated by Dr. C. D. Harrington in my absence as follows: First, careful disinfection of the arm and wound, and its closure by four stitches; the fragments were then carefully readjusted, a copious dressing of gauze and cotton applied, and the whole upper extremity immobilized in plaster, the forearm being placed at right angle with the arm, in slight supination. At the end of eight days the cast is opened, the stitches removed and the position of the fragments carefully examined before bony union has had time to take place, and a more snuggly fitting cast applied. At the end of three weeks this cast was removed and the joint examined and moderate passive movements of the joint tried. He is now wearing molded anterior and posterior splints cut from the plaster cast. There is no swelling, no deformity, apparently quite firm bony union, and a remarkably free range of motion, considering the time—but thirty days after the injury. He can move it through considerably more than half the natural range. We shall protect the arm against refracture by the use of these easily removable splints for a week longer, having them removed every day or two to allow of bathing, massage and slight movements of the arm. Then we shall let him use the arm moderately, keeping an eye on his progress until its function is fully restored, which may be a month or two, in some cases even three or four months. Formerly we used to keep these fractures a rather long time rigidly splinted, sometimes six or seven weeks; when we took them off of course the elbow was pretty stiff, and we too often then, if we could get hold of the boy, tortured him with severe passive movements to limber up the joint. We finally learned that the joint usually retained much of this stiffness as long as this course was pursued, but when left to the natural activity of the patient, it disappeared quite remarkably in a few weeks or months, excepting cases of course in which there is real anchylosis from callus or displaced fragments within the joint, or severe arthritis. We now recognize that joints do not become anchylosed from disuse, but that muscles degenerate. By limiting the time of rigid immobilization to the shortest necessary period and then substituting massage and early slight use of the member, the period of convalescence is greatly shortened. This boy will quite certainly fully recover the function of the member, and we may already congratulate the Doctor on an excellent result in a very bad fracture, i. e. *a fracture, compound, and involving an important joint.

This man, a laborer, aged 39 years, on Feb. 15th, or 37 days ago, fell from a tree, striking his flexed knee on a knot, fracturing his patella. He also was treated by Dr. Harrington, who reports that there was soon after the injury great swelling and echymosis and effusion into the joint, hence, he dressed it for a few days on a posterior padded splint, while he filled the first indication, viz., to remove the effusion of blood and serum which prevented an immediate prox-

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*Note.—Function fully restored at the end of two months.

imation of the fragments. This may be accomplished in several ways, e. g. pressure and cold, massage or even aseptic puncture. The Doctor chose hot fomentations, and his result proves that his treatment has been efficient. Having reduced the effusion, he drew the fragments together by strips of adhesive plaster applied above and below the patella in front and to the posterior splint behind, and over all a figure-of-8 bandage. This apparatus is inspected daily and kept well adjusted. Now at the end of 37 days we find little or no swelling; the fragments are well adjusted, and but a slight transverse fissure not more than an eighth of an inch in width can be clearly made out as those of you in front may step forward and confirm. We have here a very short and still soft fibrous union, which will need to be protected for a very long time yet, lest it be snapped asunder by muscular action, or, what is perhaps more likely, be gradually stretched by too early use. As there is now no tendency to displacement, except that due to voluntary muscular action, we may with perfect confidence exchange the posterior splint for the more convenient plaster cast. Hence, first placing a soft pad above and below the patella, and bandaging the limb, we next apply a neatly fitting plaster cast from the ankle to the groin. This allows the patient a little more freedom of movement, but I think we shall not let him out of bed for a couple of weeks yet; later we may allow him to get about a little with a crutch, but the protection of the dressing can not be dispensed with short of twelve or fourteen weeks from the date of injury—even then it is not safe to allow a muscular individual to go wholly without protection, and as a rule some sort of check splint should be worn for two or three months longer. Thus the treatment of a fractured patella is usually a very long and protracted one, and is indeed a serious matter. It is commonly from four to nine months before it is completed—from six to nine weeks absolute confinement; five or six more of practically one-legged freedom and two or three months more of partial disability. This, together with the difficulty of securing true bony union between the fragments, has led many surgeons to advise more or less strongly operative treatment of these fractures as a routine practice.

We have sent out for a case which was treated in this hospital last fall by wiring the fragments. He has not yet arrived, but you will be able to examine him after the operation on our next patient. To save time, I will give you the history and discuss it now:

Sept. 11, 1899, R. V. aged 16, while riding a bicycle ran into a train, sustaining among other injuries a compound, commuted fracture of the left patella. The knee was carefully cleansed, the external wound enlarged, all loose fragments—ten or twelve—removed, joint irrigated with normal salt solution, and the two remaining fragments brought together with silver wire sutures; longitudinal wound over patella closed, and a small drainage opening made at side and under the patella, in which a small gauze drain was left for forty-eight hours. Plaster cast was worn for several weeks, the patient being up and around with crutches after the fourth week. At twelve weeks the union was good, and the treatment practically finished.

Now at the end of six months you will find a very perfect result. There is no limitation of motion, he can dance, run, ride his wheel, and in fact, aside from the scar, there is nothing subjective or objective to indicate the very serious injury sustained.

This should certainly be the treatment in compound patellar fractures, but in simple fractures it is neither necessary nor advisable as a rule.

Under the most rigid asepsis, there is a slight danger of infection; if this should occur the joint will be lost, if not the limb, or a life. Hence the simple fractures without great separation of the fragments, should be treated without opening. In cases in which extensive lateral fascial lacerations allow the fragments to separate more than an inch, cases in which the joint is greatly distended with blood and effusion, which does not readily absorb, may very properly be submitted to operative treatment. provided the surgeon's skill, and facilities for the most rigid antisepsis are of the very best.

This boy, aged 14, has the appearance of a healthy country lad, but on stripping his right arm and shoulder we find this fist-sized tumor just below the shoulder joint. It is irregular in shape, very hard, not adherent to the skin, and most intimately connected with the upper end of the shaft of the humerus. In fact careful palpation shows the bone to be enlarged in every diameter, with several large smooth nodular outgrowths, indicating that the growth is really of, and probably within, the bone. Examination of the axilla shows a chain of enlarged glands. Now let us get the history of this growth. He has otherwise been healthy himself, and his family history is good. He is not aware of any injury to this arm. Four years ago, he says, a small hard nodule appeared under the skin, which was movable. It did not change much so far as he knows, until within the past year, and especially the past five months, the growth has been more and more rapid, and he recently consulted Dr. Gentz Perry, who at once recognized the nature and advised the proper treatment and sent him to our clinic. He says it is painless.

The growth is certainly a sarcoma of the bone, quite surely of the central or myeloid variety. The age, location, and of late rapid growth, disclose its malignant character. Some features are unusual, e. g., the glandular implication.

Carcinoma spreads chiefly by the lymphatics, and sarcoma by the blood channels. Hence, while we always look for lymphatic involvement soon or late in the former, we but rarely observe it in the latter, then a distinct history of injury is elicited in a large percentage of sarcomas. I am also unable to account for the movable, hard nodule which he speaks of having for some two or three years, precedent to this growth. Nothing of it can be discovered now, and there is very likely some discrepancy in the observation; i.e. it was probably not movable, but rather the beginning of this present growth. These tumors often increase but very slowly for a long time, to suddenly show greater malignancy and rapid growth. The only hope we can give this boy for his life is disarticulation at the shoulder joint and careful dissection of the axilla to remove all the lymph glands of that region. That seems pretty hard, but nothing less can stay this terrible disease. Indeed, it is to be greatly feared that it is now too late to prevent generalization even by this radical operation. To go further and remove scapula and clavicle would add nothing to the patient's chances against recurrence, which if it takes place will be within the chest or abdomen.

In making a shoulder disarticulation it is important to guard well against loss of blood. Several methods might be considered, but in this case where we wish to remove all the diseased tissues intact and with abundance of skilled assistance at hand, we shall choose compression of the subclavian artery against the first rib. After holding the arm elevated for a few minutes, I will assign this responsible post to Dr. Perry.

We will make our incisions somewhat on the plan of Larrey's method; i e., first, a vertical cut from just below and in front of the acronion, down the arm for three inches. Second, from the center of this cut we extend the oval of the racket incision around the arm, at first only through skin and fascia. Third, I deepen the incision on the anterior and outer aspects of the arm, through the muscles, open the capsule, turn the head out of its socket, and carrying the knife behind the bone, sever all the remaining soft parts and vessels. An assistant grasps the flap containing the vessels. There was quite a gush of blood as the member was severed, but it came almost entirely from the veins in the arm. We now have the vessels clamped with forceps and ligate them carefully at our leisure, having lost but very little blood.

The amputation is as you see, made very close to the body and the flaps are very much more meagre than I would ordinarily have chosen, on account of the malignant nature of the disease. There is, however, skin enough to close the wound without tension. I shall next carefully dissect out all the axillary glands. We now close the wound making a small drainage puncture below the axilla into which a small wick of iodoform gauze is carried in order to drain a pocket in which blood and serum would tend to collect. A silver foil dressing is applied to the suture line and over all a very large and copious occlusion dressing of many layers of aseptic gauze and absorbent cotton.

We ought to get aseptic healing, and I think we will. If we do not it will show some fault in our technique.*

HAY FEVER.

By A. G. Aldrich, M.D., Minneapolis.
Formerly Clinical Assistant at the Central London Throat and Ear Hospital and the Royal London Ophthalmic Hospital.

This disease is known in medical literature by at least thirty-two different names, and regarding its etiology it has nearly half as many promulgated theories. Its literature is interesting and extensive, more than three hundred contributions having been given us since 1565. The tangled skein of theories I shall not attempt to unravel, but will give my own conclusions, obtained from a personal observation of many cases.

It is a periodic disease, occurring annually at fixed periods, varying in severity in different individuals, and in the same individual, varying in its time of attack in the same, and in different individuals; varying in localities, and under different conditions, in the same locality.

Hay fever is always characterized by an intense engorgement, and hypersensitiveness of the mucous membranes of the eyes, nose and throat, accompanied by suffusion of the eyes, paroxysmal sneezing, occasional asthma, photophobia and a watery discharge from the nose, the result of vaso-motor paresis. To produce these phenomena we must have the following conditions:

External irritation.
Defective nutrition.
Defective elimination.
Intra-nasal hyperesthesia.

The irritants may be atmospheric particles of all kinds, such as pollen, dust, and bacteria, and the disease will vary in severity according to whether the atmosphere is filled with such particles or not. While it is true that during the time of year when pollen is flying in the air hay fever is more severe and prevalent, yet we meet with light types of it before vegetation blooms.

We have been pleased to call all forms other than that resulting from pollen irritation pseudo-hay fever. But there is no doubt, however, that these forms are as real in type as pollen hay fever, differing only in the brevity and lightness of the attack.

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*Note.—The wound healed without suppuration, fever, or much pain. The boy was up on the fifth day and practically healed when presented to the class two weeks later.

My cases have been quite evenly divided among individuals of the neurotic nutritionally depraved type and the robust with defective elimination.

Nerve centers are as quickly unbalanced by one form of defective metabolism as another, and I know of no special type of hay fever patient. Neither have I met with a hay fever patient who was, other than the suffering induced by this condition, in good general health.

I have observed four cases in children under seventeen years of age, and I can confirm the statement of others that invariably the first attacks come on early in the season, while those who have suffered from the disease for a long time appear to have the severest attacks as late as August.

Pathologic intra-nasal conditions are usually present, and, while I have in these cases frequently found exostoses, polypii and chronic hypertrophies, I am not convinced that simply their removal is all the nasal treatment hay fever patients need, any more than I am convinced that restoring perfect metabolism is all.

From a long observation and treatment of these cases I am sure that the nasal area receiving the stimulus, or, rather, the irritation, is that portion of the mucous membrane covering the turbinated corpora cavernosa, and especially the mucous membrane covering the anterior and the posterior ends of the inferior turbinate and that of the septum opposite.

The periodicity and paroxysmal character of this disease, its sudden onset and abrupt departure, together with that quartet of symptoms—sneezing, itching of face, nose and eyes, suffusion of the eyes and nose, and photophobia, and connected therewith the constitutional symptoms which such suffering produces—makes the diagnosis simple and complete.

There is no doubt that early in these cases, if the true diagnosis was accepted, the patients then submitting to a proper course of treatment, that chronic cases, with all their suffering and inconvenience, could be arrested.

Many such cases are treated as rhinitis or conjunctivitis in some of its forms. I have known instances where patients have submitted to severe treatment of the conjunctiva, and even to dilatation of the nasal duct, for this hay fever echymosis.

The prognosis in hay fever is favorable, especially if the disease is recognized at an early date and no guess-work treatment is established. It is also rarely necessary for these patients to change their residence, if they will coöperate with the physician regarding treatment.

In this, as in all other special work, these patients must be treated upon the general principle of restoring physiological harmony throughout the entire body. All self treatment in these cases is worthless. For the anemic and neurotic there is one combination of drugs which I have found to be of great value. It is known as Pil. Zinci Valerinate Co., Dr. Aldrich's. It has been made for me by Chas. H. Cirkler, druggist, of Minneapolis.

℞

Acid arsen. gr. i.
Quinia sulph., gr. ss.
Zinci valerinate, gr. i.
Pil. assafœtidæ co., gr. ii.

Mft. Pill to 1.

Sig. From three to six pills daily given after meals.

Full blooded individuals do well on small doses of strychnia combined with a digestive ferment, together with a large, early morning dose of sodium phosphate. Many cases require acids; others alkalies—in fact, whatever will put the general system in the best possible condition. Alcohol, in all forms, I have found to be detrimental. Intra-nasal treatment is all-important, and, while as above stated, I do not believe the removal alone of the exostoses polypii, chronic hypertrophies, or the straightening of deflected septii will cure hay fever, yet they should always be operated, in order to relieve the influence they naturally exert, as abnormalities in the nose. The correct treatment, however, for hay fever, and the key note to success is obliteration of the sensitive areas. This is best done with the galvano-cautery, and its operation in skilled hands is without injury to adjacent tissue.

It is possible in many instances to greatly benefit hay fever patients without the galvano-cautery operation, but without it the patient must be under almost daily treatment for several weeks previous to the attack, and during the attack, in fact, until the so-called hay fever "season" is over. Such treatment consists in the above recommended general treeatment, together with intra-nasal treatment, as follows:

A daily flushing of all nasal spaces with an alkaline antiseptic solution, after which every space and cavity is swabbed with the same solution, especially over the region where the sensitive areas are located. This to be followed with both spray and swab applications of a solution of supra renal extract, to again be followed by a mentholated albolene or Blandine comp. Mulford's Cocaine, which should never be placed in the hands of hay fever patients, can be used by the physician just previous to the application of the supra-renal extract solution, which in some cases, is highly satisfactory. Such methods, operative and medicinal, are the sum-total of treatment for this, more than inquisitorial torture—hay fever.

713 Dayton Building.

*RUPTURE OF AN AORTIC LEAFLET IN A CASE OF RIGHT HEMIPLEGIA WITH APHASIA DUE TO CEREBRAL HEMORRHAGE.

By Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital; Assistant Physician to the Orthopedic Hospital and Infirmary for Nervous Diseases.

C. D., an unmarried laborer, 43 years old, was admitted to the Philadelphia Hospital on January 31, 1900, complaining of shortness of breath, palpitation of the heart and severe pain in the precordium. He had been a heavy drinker, and he admitted syphilitic infection. The action of the heart was rapid and forcible. The apex beat was in the fifth interspace in the midaxillary line. A loud, high-pitched rasping murmur was heard over the entire precordium, systolic in time, with greatest intensity at the junction of the second right costal cartilage with the sternum. The urine contained albumen and granular tube-casts. Early in the morning of February 4 the patient was seized with complete right hemiplegia and aphasia, from which he gradually though not wholly recovered. On May 3 he died suddenly, after having complained of pain in the lower part of the chest and spitting blood. Post-mortem examination made by Dr. R. C. Rosenberger disclosed croupous pneumonia of the right lung, pericarditis, pleurisy with adhesion, healed tuberculosis of the left lung, red atrophy of the liver, with beginning cirrhosis, mitral and aortic endocarditis, edema and softening of the brain. The heart weighed 440 grains. The mitral leaflets were the seat of slight thickening and contraction. Two of the cusps of the aortic valve exhibited well-marked fenestration, while the middle cusp, unfenestrated, was completely torn from its attachments on one side. The aorta was the seat of beginning but well-marked atheroma. Both hemispheres of the brain were edematous and the left contained a large area of hemorrhagic softening in the situation of the basal ganglia. The kidneys were enlarged and congested.

This case presents two points of especial interest, namely the rupture of the aortic leaflet and the occurrence of right hemiplegia and aphasia from cerebral hemorrhage in the presence of valvular disease of the heart. The hemorrhage was the earlier lesion and death must be attributed to the rupture of the valve leaflet from causes residing within the circulatory mechanism. It was a natural supposition during life to attribute the paralysis and the speech-disorder to softening due to obstruction of a branch of the left middle cerebral artery by a plug detached from aortic vegetations. The differentiation of cerebral hemorrhage, embolism and thrombosis is confessedly difficult, but confidence in diagnostic ability in this connection must be greatly shaken when it is realized that, as in this case, hemorrhage may occur under the exact conditions that would ordinarily be expected to give rise to embolism, namely the existence of disease at the aortic valve and the development of right hemiplegia and aphasia. Perhaps the absence of convulsions should have suggested freedom of the cortex from softening in consequence of interference with its blood-supply.

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*Reported to the Pathological Society of Philadelphia, May 24, 1900.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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MASONIC TEMPLE.

AUGUST, 1900.

A MONSTROUS CUSTOM.

More than a century ago this country ceased to be a group of British colonies, and took its place among the nations of the world. A document known as the Declaration of Independence was drawn up and signed and the Fourth of July has since that time been observed as Independence Day. Very fitting is it that so important a day shall be commemorated; very fitting that the Declaration of Independence should be publicly read; and very fitting that this great nation should rejoice as it observes its natal day. Year by year sees no abatement in the enthusiasm which the day engenders, but unfortunately the so-called celebration is every year becoming more costly.

An estimate by the Chicago Tribune places the casualties of the Fourth of July just past at fifty-nine killed and 2,857 wounded, while the fire losses, chiefly due to firecrackers, amounted to $438,635. It would be a terrible battle which would result in so long a list of casualties. The deadly work has gone on year by year since that day of rejoicing in Philadelphia over a century ago. Already it has cost the nation more in blood and treasure to celebrate its independence than it did to win it.

As the days go by reports of death from tetanus are coming in and we may estimate that the usual proportion of the 2,857 wounded persons will fall victims to this terrible complication.

It is difficult to break through established customs, and in the present instance nothing but stringent state laws or city ordinances will have sufficient power to prevent the use of those deadly explosive which make life a burden to quiet citizens and fill the hospitals and undertakers' parlors with the cheerful idiots who recklessly use toy cannons and giant firecrackers.

Young America loves noise, let him have brass bands and tin horns to his heart's content; let the eagle scream till the poor old bird is hoarse; let there be processions with flags and banners; let there be any and every amusement that is free from danger—but in the name of humanity and common sense let this useless loss of life and this terrible mutilation be stopped.

It was rumored in June last that our city council was about to pass an ordinance to prevent the use of giant firecrackers in the streets of Minneapolis, but the project was nipped in the bud because the dealers had already laid in their stocks of fireworks and would meet with pecuniary loss by the enforcement of such an ordinance. So the matter was left in abeyance, with the result that several eyes have ben put out, many fingers blown off, and a few cripples will go through life in a pitiable condition.

Now is the time to deal with this important question. Let our city authoritites take hold of the matter, pass, and when the time comes, enforce an ordinance forbidding the use of dangerous explosives on Independence Day. They will be heartily supported by the thinking people of the community, other cities will follow the example, and soon the terrible slaughter and mutilation will cease. The man who moves in the matter and succeeds in abolishing this horrible custom will be a blessing to his country.

QUARANTINE FOR CONTAGIOUS DISEASES.

In the Minneapolis Daily Journal of the 18th ultimo appeared a communication from a "Medical Man" on the above subject, which is timely, and especially so in anticipation of another epidemic of small pox, or whatever it was that so much resembled that malady last winter. The statements made in that letter demand the immediate attention of the city authorities, and should be enforced, not only by all the medical men, but by other citizens who are liable to become victims of the dread disease. Although thorough vaccination protects the great majority, it sometimes fails, as an attack of the real disease does not always render one immune from a second experience. It cannot be known then by any one that he may not become a victim, and subject to the control of the Board of Health, as to his location while under treatment.

There is no doubt that the disease still lingers in this vicinity, and it will surprise no medical man, at least, if an epidemic should break out at any time after it becomes necessary to close the windows of houses in cold weather. There may be a larger number of cases to provide accommodations for next winter than were necessary last year, and therefore, immediate steps should be taken to provide suitable quarters for those who may be so unfortunate as to suffer from an attack of this much-dreaded malady.

It is the unanimous testimony of those who knew the condition of the house occupied by these cases last winter that it was not a suitable building for the purpose. It was not properly constructed, warmed, or ventilated. The cooking apparatus being insufficient the food could not be prepared in such a manner as invalids require. In fact, some said the place was not really up to modern conditions for an ordinary stable for cattle; and yet, cases were taken there and were obliged to remain until legally released by the proper authorities. Such an institution should not be permitted to disgrace a city in these times financially able to properly equip a hospital and care for such of its citizens as may be compelled to enter therein for treatment and for the safety of the community at large.

Communications.

PAN-AMERICAN EXPOSITION, 1901, AT BUFFALO.

To the Editors of the Medical Dial:

Dear Doctors:—The Pan-American Exposition has seen fit to entrust the care of the department of Ethnology and Archaeology to a practicing physician. I should be very glad if you would allow me to reach your readers with the following request for assistance.

Many members of the medical profession are interested in the study of American Ethnology and Archaeology and not a few have valuable collections of Indian relics and skeletons from Indian graves. Those not directly interested in this study are so circumstanced as to be aware of the hobbies of their neighbors and could doubtless furnish the address of collectors. I should be greatly obliged for information and for the loan of collections for the use of this department of the Exposition. Exhibits which represent study in some special line of American Ethnology and Archaeology will be particularly suitable.

Very truly yours,
A. L. BENEDICT, M.D.
Supt. of Ethnology and Archaeology.

MEDICAL LEGISLATION IN THE UNITED STATES.

To the Editors of the Medical Dial:

Dear Doctors—The controversies now going on before several of the state legislatures with reference to the medical laws as they now exist, gives a fair idea of the interminable difficulties surrounding the question of legalizing medical practitioners throughout the United States. As matters now stand the medical laws of the various states and territories conflict with each other to such an extent that nothing but wrangling and confusion can possibly ensue, until they are either modified or changed.

In most of the states the medical practice act requires the applicant for license to submit to an examination, even though he be a graduate of the best medical college in the country, or even if he be, as is sometimes the case, the holder of several diplomas; it being expressly stated in most of the medical laws, as they now exist, that the possession of a diploma confers upon the holder no legal right to practice his profession. Such laws are not only absurd and unreasonable, but in most cases are unconstitutional as well.

The establishment by the Congress of the United States of a board of National Medical Examiners would, in my judgment, do much to overcome the existing evil.

Such a board could hold stated meetings two or three times a year at convenient points for the purpose of examining all applicants for license to practice medicine and surgery within the domain of the United States, and its colonies; issuing to the successful candidates an inter-state or national license permitting the holder to practice his profession anywhere within the jurisdiction of the United States.

The scope and character of the examination could be made to conform to that given by the best medical colleges in the country, and the applicant should be required to obtain a definite marking, rating, or per centum, failing to obtain which, a license should be refused and the applicant should not be permitted to reappear before the examining board again until after the lapse of a definite period of time, which should be fixed by law.

July 8th, 1900.

FRANCIS CROSSON,
Albuquerque, New Mexico.

A MEDICAL SCHOOL CLOSED.

At a meeting of the corps of teachers of the New York School of Clinical Medicine, held at the Academy of Medicine, June 21st, 1900, it was decided to wind up the affairs of the school and close it permanently. This action was taken in consequence of continuous interference of the lay board of trustees in its affairs.

Simon Marx.
Herman L. Collyer.
Wm. M. Leszynsky.
Wm. S. Gottheil.
Ludwig Weiss.
S. Henry Dessau.
Louis Fischer.
Marcus Kenyon.

NOTICE.

All surgeons, assistant surgeons, acting assistant surgeons or contract surgeons, and hospital stewards, who served in the army or navy of the late Confederate States, will please send their post-office address to Deering J. Roberts, M.D., Secretary Surgeons' Association, C. S. A., Nashville, Tenn.

M. Osiris, a wealthy Parisian, has presented to the Institute of France a sum representing an annual income of about 33,000 frances for a triennial prize of 100,000 francs for the most remarkable work or discovery of general interest, especially in the domain of medicine and surgery. The prize is open to general competition in all countries.—Medical Times.

PILLS FOR UNCLE.

Druggist: "Pills, my dear?"
Little Girl: "Yes, please, sir."
Druggist: "Anti-bilious?"
Little Girl: "No, Uncle is."—Experience.

Reports of Societies.

DOINGS AT THE THIRTY-SECOND ANNUAL MEETING OF THE MINNESOTA STATE MEDICAL SOCIETY AT DULUTH.

Quite a large number of the members of this organization gathered in annual session at the Spalding House, Duluth, on the 27th of June, and continued their deliberation during the succeeding two days. It was pronounced by many as one of the most pleasant gatherings in the history of the society.

THE FIRST DAY.

Dr. Walter Courtney, president, called the assemblage to order Wednesday morning and introduced Mayor Hugo of Duluth, who made a decidedly unique speech of welcome which was interspersed with many witty suggestions calculated to create a feeling of good humor, in which attempt he succeeded.

The following were the officers of the session:

President, Walter Courtney, Brainerd; first vice president, W. H. Magie, Duluth; secretary, William Davis, St. Paul; treasurer, R. J. Hill, Minneapolis; censors, W. W. Mayo, Rochester; Franklin Staples, Winona; J. Ohage, St. Paul; W. L. Beebe, St. Cloud; A. W. Abbott, St. Paul; A. C. Wedge, Albert Lea.

President Courtney announced the personnel of several committees as follows:

New Members.—C. L. Greene, St. Paul; J. W. Andrews, Mankato; C. H. Hunter, Minneapolis; Homer Collins, Duluth; A. C. Taylor, Duluth.

Nominating.—D. P. Pritchard, Winona; O. C. Strickler, New Ulm; A. T. Conley, Cannon Falls; J. L. Rothrock, St. Paul; H. B. Sweetzer, Minneapolis; A. C. Taylor, Duluth.

Finance.—G. R. Christie, Long Prairie; L. A. Nippert, Minneapolis; W. S. Fullerton, Winnebago City; R. F. Lynch, Monticello; J. T. Rogers, St. Paul.

Legislative.—Arthur Sweeney, St. Paul; A. T. Connelly, Cannon Falls; Burnside Foster, St. Paul; C. L. Greene, St. Paul; H. M. Beacken, Minneapolis; George Douglas Head, Minneapolis; J. H. Dunn, Minneapolis; J. W. Bell, Minneapolis; W. H. Magie, S. H. Boyer, Duluth; W. L. Beebe, St. Cloud; C. H. Mayo, Rochester; E. Y. Chilton, Howard Lake; W. H. Tomlinson, St. Peter; W. S. Fullerton, Winnebago City; A. E. Spalding, Luverne; P. A. Walling, Park Rapids; W. J. Otte, Monticello; J. G. Milspaugh, Little Falls; J. P. McGaughey, Winona; E. J. Davis, Mankato; L. W. Babcock, Wadena; H. M. Workman, Tracy; G. R. Christie, Long Prairie.

A request from the Detroit Medical Society, referring to reciprocity between the states in the matter of licensing physicians, created considerable discussion. No action was taken, and the matter was laid on the table.

A memorial from the Winona Medical Society asked action against a custom in that city of forming medical clubs of 100 persons or more that engage physicians by the year, each member paying a small fee each month for medical attendance (about $1.00), which was referred to the board of censors.

A St. Paul physician offered the following resolution, which was adopted and ordered spread upon the minutes:

"Whereas, pulmonary tuberculosis is the most destructive of all diseases of the human race;

"And since its transmissibility is an established fact in every community known, it constitutes a constant menace;

"And since this disease can be most successfully treated in sanitariums, more especially those intended for the poor, as has been demonstrated by the results obtained in Massachusetts, New York, the British Isles and the different countries of Europe, which institutions must necessarily be so large that private philanthropy cannot support them;

"And, since the state supports institutions for the care of the blind, the feeble-minded, the crippled and the insane, it should also care for the consumptive poor, both on philanthropic and selfish grounds, as the segregation of those afflicted, and their sanitary education, would largely reduce the danger of spreading the disease;

"And since other progressive states have such institutions;

Therefore, be it resolved, by the Minnesota State Medical Society, that it is the opinion of the society that the state of Minnesota should establish an institution for the treatment of early cases of consumption among the poor."

President Courtney delivered his annual address upon the subject: "Some Conditions Affecting the Present and Future Welfare of the Medical Profession."

The following additional papers were read the first day:

"The value of the Newer Signs and Procedure as Aids in Diagnosis," George Douglas Head, M.D., Minneapolis.

"The Early Diagnosis of Pulmonary Tuberculosis," John W. Bell, M.D., Minneapolis.

"Antistreptococcic Serum," Charles H. Hunter, M.D., Minneapolis.

"Cardiac Dilatation," A. N. Stinchfield, M. D., Rochester.

"Back to Medicine," A. T. Conley, M.D., Cannon Falls.

"Pemphigus," Burnside Foster, M.D., St. Paul.

"Neurasthenia," H. B. Allen, M.D., Cloquet.

"Constant or Sustained Cold as a Therapeutic Agent," Soren P. Rees, M.D., Anoka.

"Chronic Indigestion," C. A. Kelsey, M.D., Minneapolis.

"Adthritis Deformans," J. P. Barber, M.D., Minneapolis.

"Vaccinnation," Louis B. Wilson, M.D., Minneapolis.

"The Microscope as an Aid in Practicing Medicine," M. C. Johnson, M.D., Minneapolis.

THE SECOND DAY.

A report of the treasurer showed balance on hand of $776.00.

The following papers were read:

"Treatment of Penetrating Wounds of the Chest," J. H. Dunn, M.D., Minneapolis.

"A Problem in Ethics," C. L. Greene, M.D., St. Paul.

"The Value of the Two-Stage Method of Supra-Pubic Cystotomy, in Selected Cases," Walter Courtney, M.D., Brainerd.

"Blood Examinations in Surgical Disease," Andrew J. Cosy, M.D., Chicago.

"Varicose Veins of the Leg," C. H. Mayo, M.D., Rochester.

"Malpractice Suits, How Best to Protect Ourselves against Them," D. P. Pritchard, M. D., Winona.

"Surgical Importance of Jaundice," Archibald McLaren, M.D., St. Paul.

"Late Suppurations Following Traumatism of the Skull," R. C. Dugan, M.D., Eyota.

"The Lymph Node as a Factor in Diagnosis," C. A. Wheaton, M.D., St. Paul.

"Dislocation of the Shoulder," O. C. Strickler, M.D., New Ulm.

"State Work with Infectious Diseases of Domestic Animals," M. H. Reynolds, M.D., St. Anthony Park.

"Our Medical Practice Act, Its Past and Future," M. N. Triplett, M.D., Dawson.

"Free Trade, Fair Trade, a Protection! Which?" Edmund J. Brown, Minneapolis.

"Medical Expert Testimony a Disgrace, and How to Remedy the Evil," H. M. Read, M.D., Menominee, Wis.

"Report of Surgical Cases," J. M. Wheeler, M.D., Grand Forks.

The annual banquet in the spacious dining room of the Spalding was a success, there being about seventy-five members and others who sat down to the tables. The hotel proprietors had taken special pains in the way of decorating and in the special courses served, all of which were heartily appreciated. The toasts were well timed, to the point, and enjoyed by the banqueters.

THE THIRD DAY.

The following were elected as officers for the ensuing year:

President, Dr. William Davis, St. Paul; first vice president, Dr. D. P. Pritchard, Winona; second vice president, Dr. Mary Whetstone, Minneapolis; third vice president, Dr. H. B. Allen, Cloquet; secretary, Dr. Thomas McDavitt, St. Paul; treasurer, Dr. R. J. Hill, Minneapolis; censors, Dr. F. A. Dunsmore, Minneapolis; Dr. Walter Courtney, Brainerd.

A change was made in the constitution, making the number of sections in the program three instead of eight, bringing all papers within three general heads, that of medicine, surgery and state medicine and medical jurisprudence. The amendment is made to concentrate interest and to make the program of the meetings less cumbersome. The chairmen of the sections were selected as follows: Medicine, L. R. Nippert, Minneapolis; surgery, J. W. Andrews, Mankato; state medicine and medical jurisprudence, W. S. Fullerton, Winnebago City.

A resolution was adopted authorizing the publication of the proceedings of the society in octavo form. The letting of the contract for the work was left in the hands of the publication committee.

The plan of an organization, composed of members of the profession, looking towards the defense of doctors in cases of malpractice suits, was endorsed by resolution.

The following papers were presented:

"Pemphigus Vulgaris, with Report of a Fatal Case," Burnside Foster, M.D., St. Paul.

"Abscess of the Liver, with Report of Case," W. H. Magie, M.D., Duluth.

"Two Months' Service in Minneapolis City Hospital," J. E. Moore, M.D., Minneapolis.

"Injuries of the Ureter," J. W. Macdonald, M.D., Minneapolis.

"Notes on Progress in Surgical Gynecology, a Brief Review," Franklin Staples, M.D., Winona.

"The superiority of a Supra-pubic over the Vaginal Section." A. E. Benjamin, M.D., Minneapolis.

"Vesical Neurosis due to Laceration of the Posterior Vaginal Wall, with report of case," John H. Rishmiller, M.D., Minneapolis.

"Relation of Ante flexion to Sterility and Dysmenorrhœa," F. A. Dunsmore, M.D., Minneapolis.

"Insipient Amytrophic and Lateral Sclerosis, with Recovery," Leo M. Crafts, M.D., Minneapolis.

"Something about the Nature and Treatment of the so-called Sciatica," Halvor Sneve, M.D.

NEW MEMBERS.

The following physicians were admitted to membership in the society:

Awty, W. J., Moorhead; Baier, Florence G., Owatonna; Bakke, Ole H., Blooming Prairie; Ball, Charles R., St. Paul; Batcheller, Oliver T., Brainerd; Bolska, Charles, Ortonville; Boot, George William, Sanborn; Brimhall, John B., St. Paul; Colvin, Alex. R., St. Paul; Davis, Horace S., Duluth; Dohm, C. L., St. Paul; Eby, J. R., Virginia; Eustis, W. C., Owatonna; Finch, Albert A., Blooming Prairie; Fisher, H. P. Shakopee; Fjelstad, Carl A., Glenwood; Freeman, Willard W., Grand Meadow; Geer, Ethelbert F., St. Paul; Greely, Liston A., Duluth; Hendrickson, H. W., Montevideo; Holte, Halvor, Crookston; Jones, M. S., Battle Lake; Karn, Jacob, Ortonville; Keene, Ralph K., Bellingham; Kelly, Benj. W., Aitkin; Knudsen, Becker, Christian, Tyler; Leicht, Oswald, Winona; Lyman, Frank, Duluth; Lyng, John A., Brandon; McCoy, Mary, Duluth; McKinnon, Malcolm, Fosston; Mayland, Martin L., Faribault; Morley, George A., Crookston; Mowers, S. W., Brainerd; Murray, Daniel D., Duluth; Murray, William Robbins, Minneapolis; Palmer, Walter A., Redwood Falls; Patton, Fred J., Duluth; Peterson, John R., Renville; Pollock, Arthur Robert, Graceville; Reiter, H. W., Shakopee; Riley, Edwin A., Willow River; Schulze, George, Owatonna; Scobaria, Charles Q., Elk River; Scott, James Frederick, Windom; Smith, P. Albert, Faribault; Strickler, A. F., New Ulm; Sukeforth, L. A., Carlton; Thabes, John Alvis, Brainerd; Thrane, Marcus, Madison; Tripp, Geo. A., Tower; Wang, A. M., Minneapolis; Webster, H. E., Duluth; Webster, I. D., Mankato; Weir, James D., Beardsley; Wesbrook, Frank Fairchild, Minneapolis; Weston, J. B., Duluth; Wiig, I. C. J., Clinton—making fifty-eight new members this year.

SOUTHERN MINNESOTA MEDICAL ASSOCIATION.

The ninth annual meeting of this society will meet in Winona on Thursday, August 2d. The officers this year are:

Dr. J. H. Adair, president, Owatonna; Dr. R. C. Dugan, 1st vice president, Eyota; Dr. E. H. Bayley, 2nd vice president, Lake City; Dr. W. T. Adams, secretary and treasurer, Elgin.

The following is the programme for the Winona meeting:

1. Invocation.—Rev. E. S. Van Ness, Winona, Minn.
2. Diseases of Childhood; President's Address.—Dr. J. H. Adair, Owatonna, Minn.
3. Something of the Past and Present in the Progress of Medicine.—Dr. Franklin Staples, Winona, Minn.

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4. Artificial Vitrious.—Dr. C. H. Mayo, Rochester, Minn.
5. Laboratory Diagnoses.—Dr. H. F. McGaughey, Winona, Minn.
6. Gastric Ulcer.—Dr. A. A. Finch, Blooming Prairie, Minn.
7. Treatment of Asphyxia from Drowning.—Dr. E. H. Bayley, Lake City, Minn.
8. Thoracopagus, Report of Case with Specimen.—Dr. Donald B. Pritchard, Winona, Minn.

9. Treatment of Prostatic Hypertrophy by Castration and Resection of Vas Deferens; Report of Three Cases.—Dr. M. H. Cremer, Mazeppa, Minn.

10. An Unrecorded case.—Dr. Florence C. Baier, Owatonna, Minn.

11. Glaucoma.—Dr. Oswald Leicht, Winona, Minn.

12. Dermatitis Hypertroformis with Report of Case.—Dr. G. E. Campbell, Wykoff, Minn.

13. Inflammation of the Lachrymal Passage.—Dr. Thomas McDavitt, St. Paul, Minn.

14. Vaginal Hysterectomy.—Dr. Byron Robinson, Chicago, Ill.

15. Goiter, Cause and Treatment.—Dr. A. S. Adams, Rochester, Minn.

16. Diphtheria, its Diagnosis and Treatment.—Dr. C. S. Bigelow, Dodge Center, Minn.

17. The Doctor's Fees.—Dr. T. L. Hatch, Owatonna, Minn.

HENNEPIN COUNTY MEDICAL SOCIETY.

The meeting of the Hennepin County Medical Society on the evening of June 4 was the closing session of the year preceding the summer vacation, no meetings occurring in the months of July and August.

The following officers were elected for the ensuing year:

Dr. A. W. Abbott, President.
Dr. C. A. Erdman, Vice President.
Dr. F. A. Knights, Secretary.
Dr. R. E. Cutts, Treasurer.
Dr. Geo. D. Head, Librarian.
Dr. R. J. Hill, Dr. J. H. Stuart, Dr. O. S. Chapman, Dr. D. O. Thomas, and Dr. C. J. Slagle—Censors.
Dr. H. B. Sweetser, Dr. C. G. Weston and Dr. R. E. Cutts—Executive Committee.

Progress of Medicine.

Neurology and Psychiatry.

UNDER THE CHARGE OF
W. A. JONES, M. D.

NEURASTHENIA AND ITS TREATMENT.

"Juvenile Hysteria and Neurasthenia," by Charles L. DeMerritt, M.D., in New York Medical Journal, June 16, 1900.

"Neurasthenia: Some Points in Its Pathology and Treatment," by G. N. McCaskey, A.M., M.D., in the Journal of the American Medical Association, June 16, 1900.

"Neurasthenia and the Rest Cure," by Frederick A. McGrew, M.D., in the Journal of the American Medical Association, June 9, 1900.

These three articles present three quite different phases of that very important pathological condition known as neurasthenia. That the importance of its early and apparently trivial manifestations is still woefully underestimated by the general practitioner is daily proven by the histories of those patients who finally present themselves to the neurologist, in a condition where months and sometimes years are required to reconstruct a vigor which should never have been allowed to fall to the minimum level.

De Merritt's brief paper gives an unusually good picture of neurotic children and the difficulty of inducing their commonly neurotic parents to give them the chance to accumulate an adequate amount of reserve force for the proper development of a vigorous nervous system. "It has too long been our habit," he says, "when consulted about a cranky, irritable, high-strung child, to treat the matter lightly. To appease the parents we give some commonplace advice about diet, rest, etc., and generally tell them that 'the child will outgrow it,' which, let me remark at once, it assuredly will not. We make no proper examination of the case, no inquiries into its antecedents. We fail to recognize the urgent need for treatment. And the neurotic child, for want of timely moral and hygienic restraint, reaches maturity with nervous force already exhausted, another recruit for the great army of neurological wrecks."

He speaks of a restless and overexacting home life as being more often the cause of breakdown than school work, and of the fact that children brought up in flats and tenements of cities have no adequate place for outdoor exercise. Of the symptoms he says, "nocturnal terrors; marked insomnia; great irritability; a tendency to lie and impose on people for no apparent reason except the love of doing so; masturbation; fits of crying and paroxysms of passion upon the least provocation, or often without any; undue love of sympathy—any or all the symptoms which mark adult cases may be detected in the juvenile sufferer. Masturbation is the symptom we are most apt to be consulted about. The common mistake is to treat it as a primary neurosis instead of as a symptom (often a trivial one) of deep-seated nervous derangement."

In speaking of the treatment he mentions first the necessity of first teaching the parents themselves some self-control, and the fact that drugs must be considered as adjuvenants to the hygienic arrangement of life and not as the main item of treatment. In regard to the removal from school, which is essential in the most advanced cases, he adds, "In those of slighter degree I doubt the wisdom of it. To withdraw a child from school often means to deprive it of the companionship of other children and throw it into contact with adults exclusively. This, with the relaxation of mental discipline, may have a most unfortunate effect and produce, instead of a cure, a young hypochondriac."

Dr. McGrew begins by referring to the fact that important as rest is in neurasthenic conditions, the "rest cure" is likely to fall into disrepute unless it is applied with discriminating judgment, and in order the better to discuss its use he divides the patients into three classes: those suffering from, (1) Developmental neurasthenia; (2) Overstimulation neurasthenia; (3) Developmental plus overstimulation neurasthenia. "Neurasthenia due to abnormal development usually manifests itself at an early age, but is either disregarded by the guardians of the child, or they trust to time for a cure. Instability and imperfect balance characterize the activity of the brain and cord in these nervous children, who commonly combine an inability to sustain prolonged exertion with an unusual cleverness of thought and action." He selects as the type of a developmental neurasthenic the "woman of remarkably healthy appearance who complains most of a chronic fatigue, and under whose superficial accumulation of unoxidized fat there are nerves and muscles, a heart, stomach, and other organs which years of indolence have made inactive. Such patients need exercise, physical training to strengthen and develop all the organs. Because such training must be inaugurated with much care and often very slowly institution treatment is generally desirable."

Under overstimulation neurasthenia are classed "the individuals born with nervous strength equal to their general organic hardihood, but whose baneful habits of life end finally in the exhaustion of their inherited nervous vitality." In this class belong the over-worked business men, the underfed students, the ministers, mothers of large families, and society devotees, and for all such rest is emphatically demanded. Cases with psycho-sexual symptoms are markedly benefitted by rest. Gastric hyper-acidity and the neurasthenia which follows it are also subjects for the rest cure.

The third class combines both factors, although in very varying degree. In those cases in which loss of weight, dyspepsia, headache, neuralgia and other symptoms indicating a failure of nutrition accompany a history of nervous overstrain, the rest cure is the best thing, preliminary to subsequent treatment to develop nerve vitality. On the other hand, with patients who have succumbed to a slight overtaxation of the nervous system, the overstimulation element may be disregarded altogether, and treatment for the development of nerve force instituted at once, and it is with this class that a sea voyage or a sojourn among the mountains proves most beneficial.

Dr. McCaskey speaks first of the recently extended knowledge as to the results of over fatigue upon the nerve cells, and to the no less important action of poisons developed in the body as a result of imperfect functioning of the different organs. "The existence of chemical products as a result of the functional activity of the ganglionic cells is an incontestable corollary of physiologic law; and it is more than probable that the condition of the ganglionic cell in the state of fatigue is such as to seriously impair those molecular changes by means of which it excretes, if I may so express it, its own toxic debris, and assimilates in exchange its nutrient supply from the pabulum which surrounds it. We have thus, viewing the cell as a unit, what may be justly regarded as a primary auto-intoxication in the strictest sense of the word." He then discusses at some length the relation of gastric disturburbances to neurasthenia and cites one interesting case in which the serious gastric trouble had lasted for some time, and only when that was already improved by careful treatment did the well-marked symptoms of neurasthenia appear. He does not however claim, by any means, that this is always the way in which cases progress.

He speaks highly of hydrotherapeutics in these cases and believes that the treatment of the gastric troubles should follow the same lines as when they are not associated with neurasthenic symptoms. Lavage he finds in general useful. Especial care should be given that the colon is not filled with an accumulation of mucus, epithelium, and food debris, which act on the nervous system by reflex irritation, and furnish indefinite quantities of bacterial toxins for absorption.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, SEPTEMBER, 1900. No. 9.

Original Articles.

AN UNUSUAL SYMPTOM OF PERFORATIVE APPENDICITIS.

By David Owen Thomas, M.D., M.R.C.S.,
Minneapolis.

The literature of appendicitis is so voluminous that it is difficult to find it accessible for an exhaustive examination of special symptoms. Whether the symptom I am going to describe has been previously recorded or not, I think it will be conceded that it is not generally known. Every symptom which throws light on the pathology of a special case is important. If perforation is sometimes attended with an unmistakable symptom, such symptom should be put on record because its recognition at the time is of extreme value.

The profession fails to adopt a uniform rule to determine when to operate in appendicitis because we are not able to make out the exact pathological condition. It is not easy, at all times, to determine from the symptoms whether we are dealing with catarrhal, suppurative, or perforative appendicitis. The symptoms do not always correspond in gravity with the pathological conditions. Thus, many an attack apparently mild has proved fatal because the actual condition—which was serious—had not been diagnosed nor suspected. However, every experienced practitioner is accustomed to look for special symptoms, the presence of which are enough to enable him to recognize the gravity of the case. Temperature and pulse are not so important as some other symptoms, such as pain, tenderness, and rigidity of the abdominal muscles. Some physicians attach considerable importance also to leucocytosis, but this would apply as a rule to the diagnosis of pus in doubtful cases. The rigidity of the abdominal muscles sometimes makes it impossible to feel any tumor in the region of the appendix, even when abscess is forming. In such a case the rigidity itself, with the tenderness, pain, and especially chill are sufficient evidence that the attack is severe even if pulse and temperature do not indicate it. Frequent recurrence of mild attacks, or a very severe initial seizure may be dependent on insidious ulceration in the appendix, and should hasten operation. If the pain and tenderness are extreme they are among our most reliable symptoms in a grave case, indicating ulceration or local peritonitis, or both. The history of long standing pain in the right iliac, previous to an attack or the persistence of pain, and discomfort after an attack call for closer surgical care and readiness for operative measures. Persistent vomiting and dysuria accompany severe inflammation of the appendix and imply generally that the peritoneuum is involved.

Vesical irritation and dysuria are well known symptoms attending appendicitis; intense pain in the penis is more unusual. But this was the most marked symptom of perforation in the following case:

Ernest K—, age 16, was seized with abdominal pain before getting up Saturday morning, April 21st, 1900. When seen by me at 2 p.m. he was suffering greatly and stated that the pain had been very severe all the morning. He gave the history of two similar attacks but milder, one of them had been diagnosed appendicitis by a doctor who saw him but once. He had been inclined to constipation and had had discomfort at intervals in his right side. On examination I found the temperature normal and the pulse 80. He was slightly nauseated, but had not vomited. In addition to the pain complained of, which was not localized, the regions of the appendix and umbilicus were tender. There was no distension but the abdominal wall was very rigid over the right iliac region. Rest in bed without food was enjoined, cold was applied to the side, and owing to the history of constipation, sulphate of magnesia in small repeated doses and enemata were prescribed. Any changes in the patient's condition were to be immediately reported.

When seen next at 2 p.m. April 22nd he had a temperature of 102° and pulse 90. The pain was more marked and now localized. The region of the appendix was more tender and the abdominal muscles more rigid. He actually cried with the pain. Operation was now considered, but the family had some preliminaries which postponed action. At 11:00 p.m. the same evening, the father called me up and said that the patient had had a sudden attack of pain in his "water-works" which made him frantic. On inquiry I ascertained that the pain was not in the bladder, but about an inch behind the meatus urinarius on the under surface of the penis. Having known of the same symptom occuring in the perforation of a typhoid ulcer I diagnosed perforation of the appendix in this case before seeing the patient. When I reached his bed side half an hour later the pain had subsided, but I found the patient in a state of collapse—bathed with clammy perspiration. The temperature was subnormal and the pulse rapid and thready. The tenderness and pain were more diffuse over the lower part of the bowel. There was no marked distension, but the right iliac region was less rigid. The family now consented to an operation which was recommended as soon as reaction from the collapse would take place.

By morning the patient had rallied and felt more comfortable. Dr. J. W. Macdonald was called in consultation. Though the symptoms were not urgent, being certain that perforation had taken place, we decided to operate. Dr. Macdonald found the appendix surrounded by about an ounce and a half of pus. The appendix was intensely inflamed with its base perforated by a gangrenous ulcer. After the appendix was removed the wound was drained. Recovery was uneventful.

This case presents several instructive features: (1) The perforation which took place very early was preceded by the history of pain. Ulceration probably had been going on without any rise of temperature. (2) The severity of the pain, tenderness, and rigidity of the abdominal wall were better guides than pulse and temperature, and indicated that operation was necessary. (3) The pain in the penis was so extreme that the parents stated that the boy was fairly beside himself—rolling and tossing around in a desparate manner, and that this special symptom overshadowed all others for nearly half an hour. (4) If perforation had not been promptly recognized the amelioration of the symptoms by the next day might have caused postponement of the operation and perhaps loss of the patient.

As to the mechanism of the above symptom I am not sure that in every perforation the appendix must be in actual contact with the ureter to cause irritation similar to the passage of a renal calculus. Contiguity of appendix and ureter doubtless might excite such pain, as it is possible for a lesion in any region of the urinary tract to refer the pain to the penis. Pain and retraction of the testicle is a well-known symptom of calculus due to reflex from a small branch of the genito-crural distributed to the ureter. But the genito-crural nerve does not transmit pain to the penis. Pyelitis and impacted calculus by reflex of the renal plexus may refer the pain to the bladder and urethra; in like manner perforation of the appendix and typhoid ulcer pain may be transferred through the hypogastric plexus to the penis, as illustrated in this case.

503-504 Masonic Temple.

CLIMATE: A FACTOR IN THE TREATMENT OF TUBERCULOSIS.

By Francis Crosson, M.D., Albuquerque, N. M.

The importance of climate as a factor in the treatment of tuberculosis is daily manifesting more and more its importance, whether taken separately or coupled with the various alleged specific plans of therapy now advocated and employed in this important branch of practice. Physicians now are informing themselves more widely upon this vital question; and the experience gained by the practitioner residing in a country possessing such almost ideal climatic conditions as are to be found throughout the extensive territory of New Mexico, are being looked upon with more interest and consideration than has heretofore been accorded them. I am not a "climate" crank, but having been a sufferer from pulmonary tuberculosis for many years, and having devoted much time, study and travel in a practical investigation of this subject, I may, without being considered egotistical, lay a reasonable claim to being qualified to speak and write authoritatively on the subject of climate. My travels have included the entire United States, Canada, portions of Alaska, and Mexico as far south as the isthmus. Points of especial study with me were noted health resorts, such as Asheville, N. C., Jacksonville, Fla., San Antonio, Texas, and the various Pacific coast towns in southern California. My interest in the subject has been a genuine one as will be readily conceded when it is stated that the primary object of my wanderings was to select for myself a suitable residence—one where I could enjoy at least proximate health, if not secure absolute recovery from my disease. The primary and all important prerequisite for any diseased condition of the air passages or lungs is an abundant and never-failing supply of oxygen derived from an atmosphere approximately free from moisture and noxious ingredients, highly rarified containing a large proportion of oxygen, electricity, and ozone—in other words a pure, dry, asceptic air. Whatever may be the belief in any special therapy employed in a given case, I must insist from the knowledge acquired as the result of constant practical observation, that pathological lung tissue will, in all cases, respond to treatment promptly in a suitable climate, i.e. where climatic and hygienic conditions have due meed of consideration. Near the seacoasts, in low, swampy and marshy places, and in most large cities, the atmospheric conditions are invariably against the patient suffering from, or threatened with, tubercular or other diseases of the lungs and respiratory tract. To throw off, retard or recover from these conditions patients should be sent into the elevated plateaus of the country, preferably to mountainous regions, with a moderate altitude. Mid-ocean has its advocates, and doubtless possesses certain advantages in point of pure air, especially in cases of tuberculosis complicated with syphilis. Prof. Lieberkuhn, the eminent German physiologist, states that the altitude most favorable to the human organism is about 2,000 meters, somewhat more than 6,500 feet. All writers on climatology concur in the value of altitude, where the altitude is associated with the atmospheric conditions above described. The excellent gymnastics afforded the lungs are most valuable, as is well known to all observers. There can be no better, more simple, or effective form of natural physical exercise than walking; and if this be regularly pursued in a favorable climate, it will obviate the imaginary necessity for a portable gymnasium, which forms part of the outfit of most health seekers who go abroad.

It would be a work of supererogation for me to state anything in connection with so well an ascertained fact as the extreme curability of pulmonary tuberculosis in the incipient stage, when the patient is at once placed amidst favorable hygienic and climatic surroundings. All leading writers on tuberculosis are a unit to-day on this question. Laennec, of France; Williams, Sir J. Clark and Edward Smith of England; Hughes Bennett of Edinburgh; Von Zienssen of Munich; Flint, Loomis, R. G. Curtain, Osler, Clinton, Wagner, and Senn in our own country, and dozens of other eminent writers and teachers, have expressed themselves in the most pronounced language upon this subject. Of no less importance, perhaps, is the widespread and almost universal concensus of opinion with regard to the climatic conditions indicated in the treatment of the various forms of tuberculosis. All authorities concede the value of altitude, absence of moisture, the direct rays of the sun, together with an absence of high and sudden winds. All of these conditions are to be found in a nearly ideal state, and in varied degrees according to the given altitude and latitude throughout the spacious territory of New Mexico.

Better than words of mine, and more useful for the purpose in hand, is a brief reference to the charts (these are taken at random and not selected) made at the United States Weather Observation Office at Santa Fe, New Mexico. Taking one year with another the average will be found to be about as follows:

Year.	Annual Mean.
1872	47.9
1873	48.3
1874	48.0
1875	47.5
1876	47.5
1877	47.6
1878	47.5
1879	50.2
1880	45.0
1881	lacking.
1882	"
1883	"
1884	"
1885	47.7
1886	47.6
1887	49.0
1888	48.4
1889	49.8
1890	50.4
1891	47.3
1892	49.1

The annual monthly values will show the distribution of temperature through the year:

Month.	Mean.
January	28.3
February	31.7
March	39.1
April	45.5
May	56.0
June	68.4
July	63.0
August	65.9
September	59.0
October	49.4
November	36.7
December	40.2

New Mexico lies in the region of the greatest dryness in the United States. The average relative humidity of the territory ranges from 29 to 43 per cent., according to locality. The average of Boston is 62.2 per cent.; at Buffalo, N. Y., 73.1 per cent.; and at Olympia, Washington 79.2 per cent. The annual rainfall for the entire territory is approximately 10.2 inches. The incomparable climate of New Mexico is its chiefest glory. It is a land of sunshine, with skies of turquoise blue. Sunstrokes here are unknown, and one can ride all day over the beautiful mesas (table lands) with the thermometer at 100F. or even more, and never suffer a moment from the heat. The atmosphere is so free from moisture that it absorbs little or no heat, so that, though the days may be warm, the nights, even in midsummer, are invariably delightfully cool and refreshing, while the absence of flies, mosquitoes, and other pests is noteworthy. In many parts of the territory are to be found grand cañons, lofty and picturesque mountain ranges heavily timbered, streams and rivers stocked with the choicest mountain trout, that have long since become famous among sportsmen. Extinct volcanoes, cliff dwellings, long since abandoned by a forgotten race, and relics everywhere of the early Spanish explorers, lend a mystic interest and enchantment to the student of archæology and history, although not so well advertised as some other portions of the country, notably California and Colorado. New Mexico is now receiving more and more the notice of Climatologists on account of its preëminent sanitary and life-giving climate, so that I have no hesitation in predicting a great future for this territory—that it will one day become recognized as the sanitarium of the United States for tuberculosis and diseases of the respiratory system in general.

The altitude of Santa Fé is approximately 7,000 feet, that of Albuquerque 5,000 feet, while at Las Cruces, the southern extremity of the territory, it is 3,600 feet. We therefore see from the foregoing that within the geographical boundaries of this territory we have all the necessary climate and atmospheric elements requisite for the successful care and management of tuberculosis.

Cases of pulmonary tuberculosis in the early stage of the disease, derive the greatest and most lasting benefit from a residence in this climate—the disease yielding promptly, and the patient becoming, in a short time, as nearly as it is possible for him to be, a sound and well man. In the second stage of the disease, also, pulmonary tuberculosis frequently subsides and remains quiescent for a long period of time, it being not an uncommon incident for a patient to ultimately die of some other disease. Cases of pulmonary tuberculosis in the third stage with serious laryngeal involvment, constant temperature, night sweats, diarrhœa, mixed infection, and profound anorexia, should never be sent from home, with the view of deriving any curative benefit from any climate. If such a patient or his friends insist upon a change, it should be distinctly borne in mind that no climate can help or save him; and that the best he can expect from a change is some relief or modification of the more aggravating symptoms of his disease, or, in other words, to make the act of dying easier for the sufferer. The attention of the medical profession throughout the United States has been attracted to this region with great force in the past few years, owing to the large percentage of recovery produced by the climate. Patients are being sent here in great numbers, and the results are more than fulfilling the expectations, so that the future of New Mexico as the sanitarium of this country for tuberculosis in all of its forms may be stated as an established fact, and its claim, I am certain, is based upon a firm and lasting foundation.

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*CAUSATION AND RELATIVE FREQUENCY OF TYPHLITIS, PERITYPHLITIS AND APPENDICITIS IN INFANCY AND CHILDHOOD.

By Joseph Henry Byrne, M.D., New York City, Visiting Surgeon to the Metropolitan Hospital and Dispensary.

By Joseph Henry Byrne, M.D., New York City.

Patient research and our advanced pathological knowledge have cleared up many an obscurity, and forced us to disregard many a theory that only a few years since appeared tenable. Grissotle about 1839, did his best to controvert the teachings of Albers, which he correctly perceived were erroneous, but owing to the support of Dupeytren, Ferrall, Laennac and others, equally as prominent, his views were completely lost sight of for nearly fifty years. He claimed that inflammations of the cecum were not accompanied by productions of pus and perforations of the appendix and pointed out that dysentery and ulceration of this part had no tendency to involve the adjacent connective tissue, but that disease of vermiform appendix with its phlegmonous inflammation, pus formations and perforations explained satisfactorily the chain of events as we now know them to take place. The weight of evidence is so great that it now must be apparent to all, that inflammation of the cecum takes little or no part in the production of appendicitis, that few cases of typhlitis exist as a primary disease and that perityphlitis only occurs as a secondary complication. The cecal theory is now a thing of the past, as all clinical and pathological evidence is opposed to it. Remers, in 586 autopsies, after perityphiltis, found the appendix ruptured in 497 cases. Agar in 218 similar cases found in cecum ruptured only 29 times but does not state whether this took place from without inwards or in the opposite direction.

It is well known that inflammation of the large and small bowel has little or no tendency to involve the peritoneum and that the opposite is the rule with an inflamed appendix. With this in mind it is easy to understand how the inflammatory process can extend to the serous coat of the neighboring parts and the adjacent connective tissue. As careful an observer as Talamon states that early operation seldom or never shows that the cecum is involved (by inflammation or perforation), but admits that it may become the seat of trouble which, however, is secondary to disease of the appendix, not including those cases of tuberculosis, dysentery and typhoid. Stercoral accumulation in the cecum may occasionally produce a mild inflammation but never give rise to ulceration and easily disappear upon the administration of purgatives.

The inner coat of the gastro-intestinal tract is frequently the seat of varying degrees of inflammation in infancy and childhood and more especially during the warmer months. Therefore if ordinary inflammatory processes took a prominent part in the production of appendicitis, this disease would be more frequently met with during the summer season, but such is not the case. Statistics prove beyond a question that this trouble is rather infrequent before the fourth year, increasing between that and the tenth, and that the majority occur between here and the thirtieth year. I have yet to see in my fifteen years' experience a case of primary typhlitis, or perityphlitis, and as the literature of recent years shows the experience of others to be somewhat similar, my paper, therefore, resolves itself into one on appendicitis.

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*Abstract of paper presented at the meeting of the American Medical Association at Atlantic City, New Jersey, June 5-8, 1900.

The appendix varies more in size, position and general makeup than all the other structures of the human anatomy. In the early periods of life it is very rich in lymphoid tissue and has been styled the tonsil of the intestines. The size bears no relation to the frequency of the disease. The organ being a functionless and rudimentary one with a blood supply that can easily be interferred with, and which under healthful conditions seems barely sufficient, it must therefore, be more or less susceptible on account of its low degree of vitality to inflammatory disturbances. The physiologist assigns to it no special function or even an indirect part in our vital economy.

The credit for our present knowledge belongs to us, owing to the excellent work of Weir and McBurney of New York, Fitz of Boston, and Hodenpyl of this city, who, by the way, was the first to suggest that the bacillus coli communis played an important part in the production of the disease.

ETIOLOGY.

The presence of foreign bodies is now looked upon as a minor factor in producing appendicitis, but when they do exist they, like concretions, act in a mechanical way.

When the mesentary is long the appendix is likely to assume a position that is almost straight but, when it is incomplete, it may become curved or twisted, thus interfering with the circuation, also, with the free drainage of the normal secretion, preventing the egress of any fecal matter that might enter, favoring the formation of concretions.

The appendix is not at all exclusive in the choice of position, and in about 60 per cent. of the cases the site selected favors gravity and facilitates free drainage, but when the position is a pendent one the ingress of matter is aided while the egress is hampered, thus inviting the formation of concretions.

The cavity of the appendix and the opening into the cecum often predispose to inflammation; previous attacks of disease, or retrograde metamorphosis having resulted in a narrowing of the latter or the production of one or more strictures of the lumen. Strictures are very infrequent between the first and fifteenth years, and the question as to whether these lesions are pathological or the natural consquence of retrograde changes is not yet satisfactorily decided, but the weight of evidence according to my judgment points to the latter. They have been found a number of times in the fetus and also in the new born.

Relatively the appendix is larger in fetal life, infancy and childhood, than it is in the adult, and compares to the larger bowel as 1:10, while in the latter it is as 1:20. It is also somewhat longer and wider in the male than in the female and this holds good in early life. It reaches its maximum size between the 10th and 20th years, and from here on it remains at a standstill or diminishes. This diminishing ratio is nothing more than a physiological or pathological retrogression, and with it goes a decreasing vascularity, and as the tissues receive their nourishment through the blood, I am therefore firmly convinced that the slight immunity that exists in early life can be credited to the fact that these changes in the majority of cases are not sufficient to interfere with the integrity of the part until after the 15th year, and statistics support this assumption, as only 15 per cent of all cases of appendicitis occur prior to the 15th year. The female, both young and old, is less frequently the victim of appendicitis than the male. The comparatively smaller size of the organ with its increased vascularity (an anastomotic branch being given off from the region of the right ovary) accounts for this slight immunity.

One attack of appendicitis predisposes to subsequent inflammation, and this may be brought about either by a constriction, adhesive bands, the presence of a concretion or interference with the circulation. Constipation or diarrhoea, if at all, are only minor etiological factors. If, as Maicaigne states, the bacillus coli communis of diarrhœal discharges is much more virulent than it is in the healthy bowel, diarrhoea may then become a more active agent. Any inflammatory state in this region may at times result in an appendicitis, especially if one or more of the predisposing conditions exist, owing to the fact that the appendix is less capable of resistance on account of its diminished vitality.

In early life the mucous membrane of the appendix possesses wonderful powers of absorption and this in itself may become an active predisposing cause.

Exposure is a possible element in the causation of the disease. Several instances have been recorded but none during infancy or childhood so far as I have observed.

Typhoid and tubercular ulcers of the appendix are met with post mortem, but are seldom seen after operation. When the solitary glands of this organ are involved during an attack of the former disease the process of healing may result in the formation of a constriction and thus this disease may become a factor in bringing about this affection.

Micro-organisms are now looked upon as being active exciting agents, and the bacillus coli communis is the germ most frequently found. Hodenpyl notes its presence in 34 out of 35 cases; Hawkins, 57 out of 61; and others give like experience. They may act independently, but their invasion is usually secondary to some existing condition. Welsh states that the bacillus coli communis is innocent if the intergrity of the mucous membrane is maintained, but becomes pathogenic when the same is inflamed or injured. Hodenpyl, however, found numerous bacilli in the walls of the appendix without any lesion of the membrane.

Traumatism as a cause of appendicitis may be of two kinds, direct and indirect. Instances of the former are matters of record and while it is possible for indirect violence to become an etiological factor, I feel positive that the appendix is already in a receptive state, and, therefore, while the injury may seem to be the active agent it is only a minor factor in the causation of the trouble.

Foreign bodies and concretions when they exist, no doubt play an important role. The former may become a nucleus for the latter which are always formed in the appendix, but they both occur less frequently than was formerly supposed When they do exist they act as irritants to the mucous membrane, producing a catarrhal inflammation and facilitating the invasion by micro-organisms, and secondly by mechanical interference, occluding the lumen, acting as a ball valve at the opening itself, or the seat of stricture obstructing the circulation even so far as producing gangrene, and, finally, by pressure.

Expression of a concretion by digital manipulation.

On April 15, 1900, I was called to see a boy of 10 years who had been suffering from constipation for 5 or 6 days. Two days prior to my visit on forcing a movement, he was taken with pain about the umbilicus which continued at irregular intervals. On the morning of the 15th he was seized with severe vomiting, the pain increasing so as to produce syncope. When I saw him he was on his side with the thighs flexed and stated that this was the most comfortable position. Temp. 101, pulse 114, complained of continuous pain with frequent severe spasmodic seizures, which caused him to cry out. The abdominal wall was exceedingly thin, muscular resistance not marked. I was therefore able to make out the appendix with comparative ease and found it in a state of erection and in a somewhat unusual location, directed upward and outward toward the crest of the ilium. The appendix I judged to be about three inches long and about 1 inch from its distal end I discovered a small but hardened fecal mass which I pressed toward the gut. On the following day his condition was about the same, but I was unable to make out the appendix owing to muscular resistance. Suggested operation but the father preferred waiting until the following morning, when to my surprise the boy had greatly improved. Temp. normal, pulse 84. No pain, tenderness greatly diminished, the appendix could be felt but the concretion was no longer in evidence. Complained of extreme hunger and stated that he was entirely well. Case passed out of my hands on the 19th as the parents considered a recurrence the main indication for an operation.

The expression of hardened fecal masses by digital manipulation to my knowledge has never before been referred to, and although the cases in which this mode of procedure would be applicable must necessarily be few, I could not refrain from directing attention to the manner in which this very satisfactory result was accomplished.

*THE LEGAL PREVENTION OF TUBERCULOSIS.

By Clark Bell, Esq., LL.D., of New York, Secretary and Treasurer of the American Congress of Tuberculosis.

Ex-Judge Abram H. Dailey, a former President of the Medico-Legal Society, and a diligent student of the science of medical jurisprudence, when asked to send his views in reply to the following question:

"What has been, in your opinion, the most notable advance in that branch of forensic medicine, with which you are familiar, during the nineteenth century?"
replied as follows:

"My answer is, that, in my opinion, that which has prevented the inception and spread of disease, through sanitary laws, based upon a knowledge of the causes of disease and the removal of the same, is the most notable. The whole civilized world is interested in that subject. Medical and legal minds have everywhere been directed to it, and through their efforts legislative action has been taken, and thereby all civilized people enjoy a sense of security against the ravages of contagious diseases that they have never before experienced. The future is sure to increase this safeguard."

Dr. Henry B. Baker, Secretary and General Executive Manager of the Michigan State Board of Health, of Lansing, Mich., in response to the same question, said:

"The most notable advance in Forensic Medicine, in the nineteenth century, is the aid which the law gives to the restriction of that disease which causes most deaths.

"One reason why this is true is because that disease which causes most deaths is now known to be a preventable disease. Another reason is that it destroys our people at the ages when, except for this disease, most of them are in the prime of life; most of them are at an age when the cost for their rearing and education is at its maximum; at least half of those who die of this disease are between the ages of twenty and forty-five years, when their value as wealth producers is greater than at any other period of age. This one preventable disease causes the deaths of more than one hundred thousand persons in the United States, in every year. Considering the fifty thousand between the ages of twenty and forty years, if we estimate their value as wealth producers as equal to that of an average slave before the war ($1,000), and considering the losses incident to the premature deaths of anoth-

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*Read before the Medico-Legal Society at its June session, 1900.

er fifty thousand persons, and incident to the long continued sickness from this disease, of the many thousands who finally recover enough to die of other diseases, it is a low estimate that this country loses thereby one hundred million dollars per year.

" Without the aid of the law, the restriction of this most important disease cannot be systematically and thoroughly entered upon; for this work, notification of cases must be required to be given to local health officials.

"In 1893 the Michigan State Board of Health passed a resolution, 'That hereafter, consumption (and other diseases due to the bacillus tuberculosis) shall be included in the official list of "diseases dangerous to public health" referred to in the law requiring notice by householders and physicians to the local health officer as soon as such disease is recognized.' The requirement has not been fully complied with throughout the entire state, but there is reason to believe that partly in consequence of this action the death rate from that disease in Michigan has been reduced by rather more than one-tenth, and that the sickness from that disease has been decreased by a larger proportion. The success which has followed the imperfect action in Michigan, and in other states and countries, is good ground for a continuance in the belief which prompted the action—the belief that tuberculosis is a disease which can be restricted as soon as beneficent laws for this purpose shall be fully operative."

The medical profession has in the past, with that great conservatism which seems to have been the inspiring thought of the medical mind of the nineteenth century, doubtless due to its methods of medical education in the American States, confined itself to the treatment of consumption.

It has been only very recently that a very few of the more courageous among medical men have declared publicly that consumption could be cured.

They have done this at the greatest risk, and as a rule have been denounced by their brethren as quacks and imposters.

Still, among the more advanced thinkers among medical men, the impression gains ground that it is a curable disease, while a majority of medical men to-day doubtless regard it as certainly in the class of diseases where preventative means are justifiable.

Advanced thinkers among medical men unite with great unanimity in declaring that it is infectious, and that the bacillus of tuberculosis is well determined, and certainly ascertained and known, but this belief is believed to be far from universal, even among medical men.

That it is a proper subject for legislation, for the use of all proper means to prevent or arrest its spread or increase, is now very generally conceded, and the Michigan legislation and the statistics from that state show, that similar legislation in other states, and still more radical measures, might be of great public good, in arresting the alarming spread of "this scourge of the human race."

This brings the question directly into the domain of medical jurisprudence.

How far can legislation be of service in affecting or securing beneficent results to mankind, in diminishing the volume of the disease, or in arresting its terrible advances.

The question has become one of profound and intense interest. It is the uppermost question of the hour. The recent Congress of Tuberculosis in Italy, the great interest in London and in the American states, made it advisable, in the opinion of the officers of the Medico-Legal Society, to bring it into prominence, and the organization of the American Congress of Tuberculosis was formed, as the results of its opening sessions on this theme. Its work is regarded simply as an introduction to the scientific world of the discussion of the subjects introduced.

An organization was perfected, and the collaboration of all who take an interest in the movement was solicited.

The 13th International Medical Congress, of Paris, 1900, while it has not classified tuberculosis as a section, will doubtless discuss the questions involved at its session next August. Delegates have been selected to lay before that body the result of the preliminary labors of this First American Congress of Tuberculosis, and this Brochure is sent out as an invitation to all those who wish to unite in an effort to stay the ravages of this terrible disease.

BOVINE TUBERCULOSIS AND CANCER.

By F. F. Casseday, M.D., Minneapolis.

The recent small pox scare in this city emphasizes the fact that while contagious diseases of the type of small pox produce alarm in the public mind akin to panic, the ravages of such virulent and deadly diseases as tuberculosis and cancer seem to produce little anxiety or alarm. The contagious disease comes at intervals and is associated with fear of quarantine, and personal discomfort, while the two diseases tuberculosis and cancer seem to have lost some of their terrors through familiarity, and their constant occurrence.

The most careful observers in the medical profession are agreed that tuberculosis in cattle is a prolific cause of the disease among human beings. The inspection as practiced under the authority of the Department of Agriculture of the United States, meets the difficulty to a certain extent, as it provides for inspection of all stock, especially cattle at the large abattoirs of the packing houses in the meat packing centres. Just how thorough or effective this inspection is there is no means of knowing, but the presumption is that the inspection is carefully done.

While this system of national inspection provides for weeding out diseased cattle at the packing houses, it does not provide for the inspection of cattle which are killed by the tens of thousands by small butchers throughout the country. A rigid state inspection by careful and competent medical men under rigid state sanitary laws is urgently needed to correct this matter.

Dr. S. Case Jones in the Journal of Tuberculosis concludes a paper as follows on the prevention of tuberculosis:—

"For the proper restriction of bovine tuberculosis in a state or province we would recommend legislation under the following general divisions:—

"1. Provide means by proper laws giving state or provincial boards of health the authority to investigate concerning the existence and cause of tuberculosis in cattle, and the danger to the public health therefrom, giving such boards the power to apply the tuberculin test to any animals in the state for the purpose of diagnosis, or of quarantining all tuberculous cattle, or causing their destruction.

"2. Extend the powers of the state board of health to local boards of health, instructing them to pass local ordinances requiring that any milk or dairy products sold or offered for sale in any municipality shall be from herds that have been examined or tuberculin tested by a competent veterinary having authority from the state board of health, who shall certify that the herd supplying the milk or dairy product is free from all disease.

"3. Make a law to prevent the importation into the state of any cattle for dairy or breeding purposes until they have passed the tuberculin test.

"4. Require by law the slaughter, at a public abattoir, of all fat or beef cattle which are sold or used for food, and under competent state inspection, both ante- and post-mortem, putting a tag on each carcass, or quarter of carcass, setting forth the date of inspection and slaughter, the quality of meat, and the name and number of the licensed inspector, the said abattoir inspectors to be appointed and licensed by the state board of health."

The fact that cattle may to all appearances be healthy, and still be suffering from tuberculosis is proven every year by examinations with the tuberculin test.

In the matter of cancer it seems that recent investigations by a New York physician demonstrate the presence of cancer of the tongue in many beef cattle. Where careful reports have been made it is shown that there is a great increase in cancer in the eastern states among human beings, and the presence of tongue cancer in cattle is, in the opinion of the experts who have made the examination, an active factor in the marked increase in cancer in recent years. This is another reason for calling for prompt and vigorous measures by health boards and the Department of Agriculture, as the recognition of such a condition in animals requires expert inspectors.

AN UNRECORDED CASE.

By Florence C. Baier, M. D., Owatonna.

The case hereinafter described was not my own, but one which I was able closely to observe, and of which I have full notes, and deathless memory as to its entire course.

On December the 29th, 1885, L. B., of Minneapolis, suddenly fell forward while crossing his office, with what he described as "a mere crick in the back," the weight of the body resting upon the right knee and left foot. Intense pain in the lumbar region prevented movement and he remained in that position until some-one entered the room.

The doctor made a diagnosis of lumbago,—prescribed salicylic acid in 5-grain pills, and inunctions of wintergreen oil over the lumbar region. After a few days the stomach rebelled and the acid was discontinued. A pill of blue-mass was given once or twice; also quinine for a time.

In a couple of weeks the patient was out of bed, and a week later was again in his office for a few days.

About four weeks after the first fall, he fell at home. He lay partially on the right side, the upper part of the body supported mainly on the right forearm and elbow. Being put to bed he remained there the best part of a month, and did not leave the house again until the first week in April. Treatment for rheumatism was begun, but with the same outcome as at first. The patient had the idea, so common with a certain class of minds, that the practice of medicine is at best only a sort of chicanery, and any remedy strongly recommended by a non-professional was eagerly tried; thus tongaline and a number of equally well advertised nostrums had their day. The family physician regarded the case as so clearly one of chronic rheumatism that, except at first, he made no visits unless especially summoned. Acute pain in the lumbar region was the dominant symptom. So severe was it that the patient did not move the trunk or lower limbs for days together, although the entire body slipped down in bed.

After an attack had lasted about a week, the pain would gradually lessen, the patient could, with care, turn in bed, finally be helped into a chair,—and the fourth week would be able to dress and walk about. Throughout a long illness this cyclical tendency was observed. When convalescence had apparently been established a new attack ensued and the same course of events was run. Exertion and excitement seemed sometimes to be responsible for an attack, but quite as often no adequate cause could be named. A late breakfast of fried oysters was once followed by an afternoon of pain, ushering in a prolonged attack. Here might be cause and effect, but the indiscretion was no worse than many another that brought no such punishment. Appetite and sleep were always good, except when pain interfered. There was some constipation but not more than could be accounted for by inactivity and an habitual tendency. Long resistance to opium in whatever form with final yielding to its cumulative action was observed early and more than once in this case.

Throughout the winter months the doctor had held out the hope that with warm weather recovery would come. During painful attacks the bed stood in a southwest bay window, and the bare skin was exposed as much as possible to the direct rays of the sun, and always, as it seemed; with a hastening of convalescence.

April was an unusually warm month, ushering in a summer of trying heat, but the effects were favorable, this month being a part of the only period of six weeks' duration when there was no retrogression. Retiring one night, he remarked that he should be able to go to his office in a few days. About two o'clock the next morning the family were awakened by agonizing cries of pain. It was common for the attack to begin at night. In May he was able two or three times to walk the street and enter a carriage; and late in the month before the General Assembly of the Presbyterian Church, as synodical counsel, he argued a case against some erring divine, spending nearly all day at the church, and was confined to his bed for weeks after that effort.

Just before this some steam baths with electricity had been tried, but exhaustion was great and they were discontinued. On the 14th of June a disciple of Mary Baker G. Eddy commenced a course of lectures in the neighborhood. L. B. attended the first lecture. On returning his prostration was so great that he was unable to ascend the stairs as he had been doing for several days, and a mattress was laid on the floor for the night. On this occasion, nearly six months after the first attack, he first mentioned the existence of a pain under the sternum. He said it seemed as if a spike were driven through the sternum, pinning him to the mattress. Any attempt to move gave rise to the same tearing pain as might have been experienced had this been really true. The Christian Scientists were eager for the credit of curing a man whose case had already attracted much attention, and for two weeks gave two or three treatments a day. On one occasion, sure that the time had come for the vindication and proof of her doctrines, the healer, a large, muscular woman, seized his arm with a dramatic command to rise and walk. The wrench at the sternum called forth so terrible a cry as to moderate her zeal. The patient suffered excruciatingly for days in consequence. Hot weather had now come, but without the promised recovery. Looking back over a period of more than six months, it was plain that there had been steady decline that could hardly be attributed to muscular rheumatism.

On the second of July, 1886, another physisian was called, and a few days later he invited in consultation a young physician who was then making some study of nervous diseases. For the first time a careful history of the case was obtained. L. B. was a native of Germany of the peasant class, was 41 years of age; had been twice married and the father of six children. Family history was exceptionally good. Although recently engaged in business, he was by profession a minister and a teacher. He had combined both callings in the South after the war, when each was so poorly paid that one alone would not afford a support. While president of a small college he had for seven years held a distant pastorate. In returning therefrom he regularly lost Sunday night's sleep He preached two sermons a week, spent Saturday in making pastoral calls, was editor of an educational journal, contributed many articles of a theological and educational character to other periodicals, conducted several public discussions with local sceptics, lectured on various subjects, engaged in several long and acrimonious newspaper quarrels. He and his wife conducted a boarding hall in connection with the school. He was accustomed to spend the early evening hours in assisting pupils in the preparation of lessons. All the writing and study was done after the house had become quiet at night, two o'clock being his customary hour for retiring. In summer vacations he resided in his parish, but took no real rest. He suffered greatly during a three years' residence at Little Rock with malaria, and used quinine and blue-mass in heroic dosage. While living there in May, 1881, he once left the schoolroom at noon on a Thursday. The following Saturday afternoon he woke to find himself in bed, the intervening time being a blank. Just the nature of this seizure and the remedial measures employed, if any, he never knew. The next month, on advice of physicians, he came north to live. He traveled in the northwest most of the time for four years, and seemed completely to have regained his health. At most irregular intervals this patient was an inordinate eater of vegetables, meats, eggs, milk, cheese, and particularly of fruits—those containing much acid, as sour apples, oranges and lemons. Except hot breads, he rarely used cereals in any form. He used beer, wines and distilled liquors in temperate amounts. He chewed tobacco, but never smoked. A year before his illness he had slipped on the ice, the hip-joint apparently giving way somewhat, and he limped slightly thereafter. A few months later the same thing occurred as he stooped to move a half-filled tub. Hereafter there was constant pain in the hip when standing or walking, but this was not complained of during the illness. The patient admitted that for more than a year preceding his illness—and there are reasons for believing it true of a great number of years—he had indulged in excessive coitus, and finally discovered that sexual power, but never desire, was diminished. For several months before the commencement of this illness, he was under great business strain and financial worry, and complained a little of headache, poor appetite, nervousness, irritability of temper and general weakness.

The doctors now in charge of the case believed that they had some obscure nervous malady to deal with. Some tests were made for impaired sensation, with negative results. The theory was that a new attack of pain indicated a new area of inflammation in the spinal cord; that as inflammation subsided sclerosis occurred; therefore patient was in comparative ease until a new area was involved. Later symptoms did not seem to verify such a theory, and no definite diagnosis was ever made. Some liquid malts were given, but the chief reliance was upon Phillips' acid wheat phosphates. Strychnine was never well borne. Bovinine was used apparently with profit until the stomach utterly revolted against its nauseating taste. A diet, mainly of cereals, employed for a couple of weeks, was of marked value, but the patient refused to follow it longer.

Massage, well given by a regular practitioner, was kept up for three months, three times a week. Inunctions of olive oil and of cocao butter were given with some persistency at different times. Of all such measures it could only be said that there were no ill effects. Warm baths were given with as much regularity as possible, but by no means daily.

Few, if any, examinations of urine were ever made. Certainly treatment was never based upon nor modified by any pathological findings therein. Microscopically and in amount it was normal. Throughout the sickness there was observed tardy evacuation after the call to urinate and feeble ejaculation.

After June the 14th, 1886, there were no periods of improvement such that the patient was able as heretofore to rise unassisted, even though slowly, much less go about the house. Pain in the lumbar and sternal regions, although of varying intensity, was unremitting, and was also becoming fairly constant in dorsal and cervicle regions.

In October an attack of pneumonia, perhaps hypostatic in character, came on suddenly. Coughing and raising of sputum were continuous and caused pain of a tearing sort under the sternum. Laudanum was given and the cumulative effects manifested themselves again almost fatally. Temperature and pulse were only slightly above normal. Respirations were increased and there was dyspnœa. At this time it was noticed that the first and second portions of the sternum had separated; also that the upper dorsal portion of the spinal column was curved laterally and posteriorly.

Two other physicians were now called in consultation, and aspiration under anæsthesia was done through the sternum in the hope of demonstrating the existence of an anterior mediastinal tumor believed to be responsible by its pressure for the separation of the parts of the sternum, but results were negative.

The two latest consultants were inclined to explain all the features of the case by the presence of tertiary syphilis. The two men who had studied the case for more than three months never accepted this theory; but as their own treatment had availed nothing they could do no less than consent to the trial of anti-specific treatment. So iodide of potassium and mercurial inunctions were prescribed. The patient had not taken a dose of medicine from first to last that had been known to do any good, but now every dose plainly added to his misery. This treatment was discontinued and nerve foods resumed. But when the disease was, with this treatment, making evident headway, the counsels of the two who believed in the specific origin of the disorder prevailed, and again and again, in one way or another, anti-specific treatment was instituted, and always with unpleasant results. Salivation occurred three times, and always after very few inunctions. The patient always denied ever having had syphilis and the treatment for it certainly failed to confirm the diagnosis.

In January, 1887, after more than a year of illness, the patient gained a little, the diet again being largely cereal. Having been assisted to a chair, he one day arose without aid, and, holding on to the instrument, walked nearly around the piano and back, with no ill effects. A few days later, however, came another attack. From this time on opiates, which the patient had long demanded, were given daily with gradually increasing doses, until finally four teaspoonfuls of McMurrie's elixir were often given, in divided doses, at short intervals to quiet pain and induce sleep. Bromides were ineffective. On account of sub-sternal pain, the patient lay on his back in bed. The neck became unable to support the head, so head and neck were propped high on pillows. Sudden movements were distressing and generally impossible. Changing the bed clothes was often the work of hours or days, so slowly and gently had all movements to be made. If the patient tried to get into a chair, it was only with all possible assistance and inch by inch that he was raised from the recumbent posture, and often the attempt had to be abandoned because of the excruciating pain.

In March, 1887, pneumonia again suddenly developed. The coughing and raising of sputum caused such evident agony that few persons had the nerve to remain long in the room and witness it.

Strangulation seemed imminent. The sputum raised was never rusty, but of a yellowish or greenish yellow tinge, and in chunks with much frothy, stringy mucus. Although this attack passed in its severity, there was always some coughing and raising thereafter. Bedsores threatened, and the placing of an inflated rubber ring was a work of time and a great trial to both patient and nurse.

Constipation became a distressing symptom, after laudanum was regularly used.

May saw the patient improving a little and he was once able to be gotten into a chair, the head being carefully supported, for the first time in three months, and was still hopeful of ultimate recovery. An ounce of Duffy's whisky was given now with each meal. Port wine and beer were allowed in small quantities as the patient asked for them.

Late in June that member of the family who had all along laid some restrictions upon diet, went away for a time. The patient then refused any longer to take the phosphates, whisky or wine. He finally partook heartily of baked beans and that after several days' extravagant use of green vegetables, and sudden discontinuance of long-accustomed stimulants in a season of oppressive heat. An attack of cholera morbus resembling Asiatic cholera in its severity, ensued. Vomiting was intractable. No food was taken by the mouth after June 28, although some attempt was made at rectal feeding. He became unconscious early Wednesday morning, July 6, and excepting a brief interval on Thursday morning, he so remained until death occurred on the morning of July 8.

For some weeks before death, the patient could move unassisted only the forearms and hands. This condition of things was not due to paralysis, but in the early stages to the intolerable pain; and later there was added the weakness and clumsiness which disuse of muscles always entails. There was just perceptible flattening of the thorax and the abdomen seemed crowded forward a little.

Postmortem findings were as follows: All organs were normal, even the gastro-intestinal tract, betraying no morbid changes from the cholera morbus. Around one kidney was an effusion of blood, due to the bursting of a blood-vessel and believed to be the immediate cause of death. Under the sternum was an encapsulated tumor containing a whitish mass of a jelly-like consistency. Brain and spinal cord were normal. The walls of the spinal canal were lined with scales of a calcareous nature that intruded upon the lumen, and pressed upon the substance of the cord itself. The spinal column was curved laterally in the upper dorsal region and the natural curvatures were increased, especially in the upper dorsal and cervical portions. Bones of the cranium and face were normal. The bones of the pelvis and the femurs were somewhat out of shape. These and other bones, as the clavicles, scapulæ and humeri, were so friable that they were easily broken by the fingers. The patient had lain for months with the legs drawn up in bed, the knees widely separated and supported by pillows. The cords of the legs were unelastic and had to be cut in order to extend the legs. There was no evidence of syphillis, and the physicians who had advocated this theory as a plausible explanation abandoned it unreservedly after the autopsy.

I leave with you the diagnosis of a disease which so many competent physicians failed to recognize from its symptoms. All were equally frank in declaring that they did not understand the nature of the ailment, that they found nothing in their own experience nor in literature to parallel it. Were trophic nerves at fault? Were the contents of the tumor and the calcareous deposit in the spinal canal an evidence and a result of perverted nutrition? Was a diagnosis ever possible? If so, what was the treatment? Is there anything in the history that points to a cause?

A man is stricken down suddenly in the prime of his years, and during eighteen months is gradually succumbing to a disease that declares itself by little else than unceasing, indescribable pain. With the exception perhaps of Phillips' acid wheat phosphates, there is no hint that he was ever helped by any thing except diet and in that "De gustibus non disputandum" was his motto. The history of this case concluded its final chapter more than thirteen years ago. Is there anything in the development of medical science in the years that have since passed to throw any light upon it?

Note. The physician first called was Dr. Isaac D. Alger. The one who prescribed morphine was Dr. Salisbury, now deceased.

Dr. Geo. F. French, now deceased, had charge of the case from July 2, 1886, to July 8, 1887.

His first consultant was Dr. R. O. Beard, professor of physiology in the medical department of the U. of M. The two later consultants were Dr. Chas. H. Hunter, professor of the theory and practice of medicine in the U. of M., and Dr. Braunstein, then late of Vienna, now of St. Louis. Dr. Wm. H. Hallowell, professor of obstetrics in the College of Physicians and Surgeons Hamline University, gave the massage, and was also a consultant. All of these men lived in Minneapolis and all bestowed great care and interest upon the case.

Note II. The writer of this article, not then a physician, was the wife of the patient, and was his nurse during most of the time.

Note III. Mollities ossium was the name given to the disease on the post-mortem findings.

Note IV. "The disease (osteomelacia) is almost always observed in women. Fehling has even asserted that it never occurs in men."—Sapons' Annual.

THE MEDICAL DIAL
A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.
J. W. MACDONALD, M. D., F. R. C. S. E., Editor.
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SEPTEMBER, 1900.

THE TREATMENT OF TETANUS.

That tetanus is a disease attended with a terrible mortality has been abundantly demonstrated. The special committee appointed by the British Medical Journal found that between 1875 and 1892 there occurred in England and Wales 2969 deaths from traumatic tetanus, and between 1881 and 1892, 568 deaths from idiopathic tetanus. The conclusion arrived at by this committee was that acute tetanus is incurable, and that although anodynes and hypnotics sometimes afforded relief, there was no known remedy for it.

The prognosis of a given case of tetanus is influenced by two important factors. The first of these is the period of incubation. The shorter the period of incubation, the greater the danger of the disease being fatal. From a large array of statistics it is reasonably safe to infer that when the period of incubation is less than ten days the recoveries are no more than 5 per cent. As the period of incubation lengthens the prognosis improves until the recoveries may be as high as 50 per cent. The second factor is, the rapidity with which the symptoms develop. The more rapid the progress of the disease the more likely is it to prove fatal.

Since the introduction of serum therapy in the treatment of tetanus, the mortality has unquestionably been lessened. Thus Marson collected 38 cases, all treated by the subcutaneous injection of antitetanic serum, with a mortality of 13 or 34.2 per cent. Hewlet collected 42 cases with a mortality of 36 per cent. Of 890 cases collected by various authors the average mortality was 38.5 per cent.

Dr. Alexis V. Moschowitz (Annals of Surgery, August, 1900) gives a synopsis of 97 cases obtained from the literature of the past ten years. All of these were treated by subcutaneous or intravenous injection of antitetanic serum. Of these 97 cases 55 recovered, 42 died, a mortality or 43.3 per cent. In 49 of the cases the period of incubation was ten days and under. Of these 45 per cent. recovered.

These figures are encouraging, but as pointed out in these columns a year ago, the best results are obtained when the serum is given early in the disease, and indeed when it precedes the first development of the symptoms. Keeping this in mind, it has been the custom of the writer in addition to the ordinary care of the wound, to treat every case of traumatism, in which the danger of tetanus is specially marked, by injections of antitetanic serum from the first day of the injury, regardless of symptoms. Under this class of cases we would embrace wounds caused by kicks of horses or mules, wounds produced by splinters entering the bare feet, contused wounds from the passage of heavy wagons, &c. In this connection the experiments of Nocard are of great interest. To test the minimizing effect of the serum, he infected 375 animals with the poison of tetanus; before a sufficient time had elapsed for the disease to develop he administered antitetanic serum to each animal. Not a single case of tetanus occurred among the entire number. Fifty-nine other animals were similarly infected with tetanus, but unprotected by antitetanic serum. Every one of these died.

The practice of using antitetanic serum as a preventive of tetanus has been in vogue in France, and should receive more attention in this country than it has heretofore; the administration of the serum is simple and harmless, and the feeling of security it gives both patient and physician is well worth the cost and inconvenience of the procedure.

THE FUTURE CONVEYANCE FOR THE PHYSICIAN.

Speaking generally, there are two apparently insurmountable obstacles in the way of introducing the "Auto" to physicians for use in their daily rounds—primarily the one of cost and maintenance, and secondarily suitable roads. The former applies throughout the United States, the latter to most of its cities—chiefly western.

In defense of the charge of "high prices" inventors, manufacturers and capitalists claim—and most justly so— that a reasonably high price is justifiable, which, aware of initial losses consequent to all inventions, will readily be granted, the only qualifying term is: what is a reasonable charge?

It is a conceded point that a first class electric "auto" can, at the present time, be turned out for about $525, to which we should add a reasonable profit—say thirty percent., equal to $157.50, together with the cost of placing same on the market, making another charge of about $117.50, or a total of $800. Thus we see that a first class electric "auto" can be sold—giving a good dividend to the "other side"—for about $800.00, which price would be an inducement and an encouragement to those who would be pleased to avail themselves of such a delightful mode of conveyance. The prices in New York City, up to the middle of July last, have been from $1,500 to $1,800; however, since that short period several manufacturers have advertised electric "autos" at $1,200, and it is reasonable to assume that by spring of 1901 prices will fall to $1,000, with a good prospect of another "drop" before the following autumn. Should, however, the demand for "autos" considerably increase within the next twelve months, it would undoubtedly have the effect of still further lowering the prices; and thus bring the "auto" within the reach of a reasonable expenditure, and possibly to the figure we have estimated it can and ought to be sold at—which price would bring the "auto" into practical use with the physician.

Now, as to the second part of our apparently insurmountable obstacle, namely: suitable roads. In the United States we have no such roads as may compare with those on the continent of Europe, especially those of France; yet Minneapolis is fairly well provided with suitable roads for "auto" use—the suburban and country roads, within the radius of such a drive, are, well, the less said about them the better. Still, as we now number ourselves among the "big" cities (200,000 and over) we may expect—nay demand— better roads in the near future, which will then make the ownership of an "auto" more desirable.

THE HEALTH COMMISSIONER OF MINNEAPOLIS.

The city of Minneapolis may be congratulated on the fact that at present only three cases of smallpox are under treatment, and as these are under strict quarantine we may reasonably hope that the epidemic is almost stamped out. It is well, however, to bear in mind that during the summer months epidemics of smallpox have a natural tendency to abate. In Great Britain and western Europe, generally, for example, the monthly number of cases is high from November on through the winter months; but from May a rapid decline in the prevalence of the disease takes place, September showing the least number of cases. It behooves the health authorities therefore to maintain their vigilance especially during the autumn months, lest the disease should start up with renewed activity.

While we urge the need of watchfulness, we cannot endorse the manner in which the executive officers of the health department are appointed. It is too late to declare the health commissioner incompetent or to begin to consider his qualifications or fitness for the office, after an epidemic has spread throughout the city, after special physicians have been employed at salaries of $300 or $500 a month to do the work that properly belongs to the health commissioner. Heretofore the only qualification for the office in the eyes of the city council has been the ability of the candidate to pull the necessary political wires to secure aldermanic votes. The experience of the past few months should lead our city fathers to consider that political influence is not the only requisite, but that the man to whom is entrusted the oversight of the city's health should be a physician who has had special training and experience in that direction. He should be a good bacteriologist, he should understand the nature and realize the danger of epidemics, and he should have the energy and executive ability to take prompt and decided measures to enforce isolation and quarantine.

THE MICROBE OF ELEPHANTIASIS.

The scientific expedition recently sent to Nigeria by the Liverpool School of Tropical Medicine report that they have discovered in Mosquitoes the bacillus which causes elephantiasis. They believe that the experiments which are now being carried on to stamp out malaria by preventing innoculation by mosquitoes can be successfully applied to elephantiasis. If so, the natives of tropical countries will be protected against one of their most dreaded foes.

CORRECTION.

The formula for Pil. Zinci Valerianat Co. in Dr. A. G. Aldrich's article in the August number of the Medical Dial should read acid. arseniosi gr. $^1/_{60}$, in stead of acid. arseniosi gr. 1.

THE CELESTIAL SURGEON.

If I have faltered more or less
In my great task of happiness;
If I have moved among my race
And shown no glorious morning face;
If beams from happy human eyes
Have moved me not; if morning skies
Books and my food and summer rain
Knocked on my sullen heart in vain:—
Lord, thy most pointed pleasure take
And stab my spirit broad awake;
Or, Lord, if too obdurate I,
Choose Thou, before that spirit die,
A piercing pain, a killing sin,
And to my dead heart run them in!
—Robert Louis Stevenson.

HEROIC TREATMENT FOR SOFT CORNS BETWEEN THE TOES.

Dr. A. M. Phelps, the eminent orthopedic surgeon, recommends that the soft corn be removed and the tissue surfaces between the toes be prepared and the two toes stitched together. The "webbed toes" do not impair the usefulness of the foot, and patients who have submitted to the operation express themeselves as well pleased with the result.

Reports of Societies.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Will hold its thirteenth annual meeting in the Assembly room of the Galt House, Louisville, Ky., Tuesday, Wednesday and Thursday, September 18, 19 and 20, 1900, under the presidency of Dr. Rufus Bartlett Hall, of Cincinnati, Ohio.

The following-named papers have been offered:

1. President's address, R. B. Hall, Cincinnati.
2. Ovarian fibroma—case with microscopical report—L. H. Laidley, St. Louis.
3. Cholelithiasis—with report of cases— H. E. Hayd, Buffalo.
4. Appendicitis during pregnancy, Charles G. Cumston, Boston.
5. Diagnosis of ectopic pregnancy before rupture, based on ten cases, J. F. Baldwin, Columbus.
6. Three cases of extrauterine pregnancy, with specimens, W. B. Dorsett, St. Louis.
7. The private hospital, Joseph Price, Philadelphia.
8. Paper (Title undetermined) E. F. Fish, Milwaukee.
9. Paper (Title undetermined), C. C. Frederick, Buffalo.
10. Extirpation of the rectum and sigmoid per vaginam, John B. Murphy, Chicago.
11. Paper (Title undetermined) H. O. Pantzer, Indianapolis.
12. Paper (Title undetermined), J. H. Carstens, Detroit.
13. The hymen—of what significance is its presence or absence in determining virginity, John Milton Duff, Pittsburg.
14. Paper (Title undetermined), W. P. Manton, Detroit.
15. Paper (Title undetermined), F. Blume, Pittsburg.
16. A satisfactory method for suspension of the uterus, Robert T. Morris, New York.
17. Paper (Title undetermined), H. W. Longyear, Detroit.
18. Some points regarding surgery of the gall-bladder, A. Vander Veer, Albany.
19. Surgery of the liver and bile ducts, W. G. Macdonald, Albany.
20. Observations respecting malignant disease of the pelvic organs, Augustus P. Clarke, Cambridge.
21. Paper (Title undetermined), M. Rossenwasser, Cleveland.
22. Bilateral celiotomy and shortening of the round ligaments for complicated retroversion of the uterus, A. Goldspohn, Chicago.
23. Paper (Title undetermined) W. B. Chase, New York City.

24. Paper (Title undetermined), Charles A. L. Reed, Cincinnati.

25. Round ligament ventrosuspension of the uterus, D. Tod Gilliam, Columbus.

26. Paper (Title undetermined), L. S. McMurtry, Louisville.

The titles of papers are announced in the order of their reception. The permanent program will be classified and issued about August 25, after which date no further titles can be added or changes made in the printed program.

A cordial invitation is extended to the medical profession to attend the several scientific sessions of the association.

AMERICAN MEDICAL ASSOCIATION.

At the recent meeting of this body, at Atlantic City, the special committee appointed to consider specialism and advertising reported as follows:

(1) Specialism is not only desirable; it is unavoidable. (2) It is proper for a physician to seek to perfect himself in the direction of his greatest ability, even to the neglect of some other field of practice. (3) A specialist as well as the general practitioner may have a practice directly with his patients, or indirectly through consultation. (4) In his direct practice, a specialist ought not to be an exclusivist. In his consulting practice, a specialist stands in a different relation to his fellow-physician than do general practitioners in consultation. He is rather a coadjutor than a consultant. (5) Specialism per se does not create discord in the harmony of professional intercourse. (6) The time to enter upon a specialty cannot be determined by rule.

As to advertising: (1) No physician can escape advertising. (2) The true physician serves humanity first, the earning a livelihood being secondary. (3) Any method of advertising reversing this order is not to be commended. (4) Any method of advertising which only seeks to inform the public that the advertiser is ready to be of service is permissable. (5) The above principles are fixed, their application varies with the environment. (6) Regulations restricting advertising should be equal in their action.

ROENTGEN SOCIETY OF THE UNITED STATES.

Cedar Rapids, Ia., August 1, 1900.

To the Editors of the Medical Dial.

Dear Doctors: The Roentgen Society of the United States, will meet in New York City, December 13th and 14th, 1900, at the Academy of Medicine. Papers have been promised by eminent men abroad and here, and a very successful scientific meeting is assured.

There will be offered advantages to the visiting members for instruction in x-ray work that cannot be had under any other conditions. It is especially desired that all hospitals using x-ray especialy desired that all hospitals using x-ray apparatus, x-ray studios, physicians, surgeons, and dentists doing x-ray work, scientific investigators, manufacturers and dealers in x-ray apparatus of all kinds throughout the United States should at once send their names and addresses to the chairman of committee of arrangements, Dr. S. H. Monell, 43 East 42nd St., New York City, N. Y., so that they may be sent important notices regarding the meeting.

This Society is the only one of its kind in America, national in character and for scientific purposes only.

Yours very truly,
J. RUDIS-JICINSKY, M.D.,
Secretary.

P. S. All those wishing to become members or read papers before the society may communicate with the secretary.

MANILA SALOONS.

We predicted just what has come to pass. When the volunteer chaplain, the Rev. Mr. Wells, on his return, was made responsible by the papers for the statement that one of the results of American occupation has been an increase of saloons from four to more than four hundred, we ventured to prophesy that local corroboration would be decidedly lacking. The Manila Freedom of April 21 thus disposes of Chaplain Well's statement: "We have taken some pains to investigate this charge, and have to say that it is false in every sense. When the flag was first planted in Manila there were between 4,000 and 5,000 grocery shacks, kept by Chinos and Filipinos, and every one of them sold liquors, a native product, which did more to fill graves than disease and bullets. They were not saloons, but grog-shops, insidious hell-holes, and many soldiers became victims of them. Vino and other native drinks could be purchased for one cent a drink, American money, and ten cents was a sufficient sum for a common drunk and a penny or two more a bacchanalian revel. Governor-General Otis had this problem to solve during the early days of occupation, and he was happily successful in closing most of the Chino and native shacks. A license system was established and the American saloon took the place of the native saloon. With their establishment the death- and insane-rates have been less, and the greatest good to the great number has thus been subserved. Instead of over 4,000 places where liquors were sold we now have less than 400, and the quality of the stuff is vastly better and the quantity less. Insidious effects of vino and native gin soon alarmed physicians and surgeons, and an order was issued to seize and destroy all of said products found. This practically eliminated their manufacture, and to get them is as difficult as it is to get liquors in the veriest prohibition town of Kansas. Hail the reform!"—Army and Navy Journal.

Book Notices.

FRACTURES, BY CARL BECK, M.D., VISITING SURGEON TO ST. MARK'S HOSPITAL AND TO THE NEW YORK GERMAN POLIKLINIK; FORMERLY PROFESSOR OF SURGERY, NEW YORK SCHOOL OF CLINICAL MEDICINE; CONSULTING SURGEON, SHELTERING GUARDIAN SOCIETY ORPHAN ASYLUM, ETC.; WITH AN APPENDIX ON THE PRACTICAL USE OF THE RÖNTGEN RAYS. 178 ILLUSTRATIONS. PRICE $3.50 NET. W. B. SAUNDERS & COMPANY, PHILADELPHIA.

Since the introduction of the X-rays textbooks on surgery have in a brief but imperfect way referred to the value of the new discovery in the diagnosis of fractures. The author of the present work deals with the subject in an exhaustive and scientific manner. The mechanism of fracture and the many displacements to which the fragments are subject are beautifully represented in the skiagraphs, and other illustrations which adorn the work. In no other class of cases is the practitioner so liable to disappointment, annoyance, and even persecution, as in fractures. This valuable and concise little work will therefore be prized by the practitioner as affording him in small compass an up-to-date guide in the diagnosis and treatment of fractures.

ATLAS AND EPITOME OF SPECIAL PATHOLOGICAL HISTOLOGY, CONCERNING CIRCULATORY ORGANS, RESPIRATORY ORGANS AND GASTRO-INTESTINAL TRACT, WITH COLORED PLATES, BY DR. HERMANN DURK, ASSISTANT IN THE PATHOLOGICAL INSTITUTE, PROSECTOR TO THE MUNICIPAL HOSPITAL, L. I., IN MUNICH, BAVARIA, EDITED BY DR. LUDWIG HEKTOEN, PROFESSOR OF PATHOLOGY IN RUSH MEDICAL COLLEGE, CHICAGO; PUBLISHED BY W. B. SAUNDERS, 925 WALNUT ST., PHILADELPHIA. PRICE $3.00, net.

The above work is especially designed for students, but will prove interesting and useful to the profession in general, as the text in combination with the colored plates gives a ready explanation of the diseases under consideration. It will be of great assistance in diagnosis. The author expresses his object: "To further the knowledge of the microscopic changes produced by disease, and to stimulate and lead the beginner to personal and exact microscopic observations." Two more volumes are promised to follow shortly, one completing special pathologic histology, and the other dealing with general pathologic histology. We can recommend the present volume to our readers, and those to follow will, no doubt, be equally valuable.

GENERAL AND LOCAL ANESTHESIA. By Aimė Paul Heineck, M.D., Clinical Instructor in Genito-Urinary Diseases College of Physicians and Surgeons, Chicago; Clinical Instructor in Gynecology, Chicago Clinical School; Clinical Instructor in Surgery Northwestern University Woman's Medical College; 124 pages, $1.00. G. P. Engelhard & Co., Publishers, 358-362 Dearborn St., Chicago.

The above work should receive a cordial welcome by those who find it necessary to give anæsthetics, and who are without considerable experience in their use, as it contains careful instructions both as to the administration and a list of danger signals to be watched for and the results avoided if possible. When we consider the common use of these powerful agents, so rapid in their action, in the hands frequently of inexperienced persons, we marvel at the comparatively limited number of fatal accidents. If the directions given in this book are strictly followed, and the means of resuscitation, when danger threatens, are promptly adopted, especially when chloroform is the agent used, patients would be comparatively safe under its influence.

We can recommend this work on general and local anæsthesia as giving valuable hints for the successful administration of anæsthetics and the management of cases before and after their use.

WHY GO EAST FOR A MEDICAL EDUCATION.

(Communicated.)

Medical education in the northwest is a thing of comparatively recent growth. Twenty years ago the Twin-Cities had a combined population of less than a hundred thousand people. There were but two or three small hospitals hardly worthy the name, and no facilities for the young men of the northwest who desired to enter the medical profession, for obtaining a medical education. Today there are two medical colleges in this city with buildings, equipment and faculties equal in every respect to the best, and a wealth of clinical material that is more than ample for all needs, provided by ten hospitals with over fifteen hundred beds in a center of population of nearly 400,000 people.

The College of Physicians and Surgeons, the Medical Department of Hamline University, with its new buildings one wing of which was completed last fall, has a most advantageous situation, being located in the center of the hospital district of Minneapolis, and directly opposite the new buildings of the City Hospital. A great wing of this institution now being completed, will immediately increase the capacity to about two hundred and fifty beds, and when all the buildings planned are finished it will have a total capacity of about five hunded beds, and will be one of the most finely planned, and appointed hospital plants on the continent.

The college buildings across the street are designed in the same style of architecture and when both groups of buildings are completed they will have a most imposing effect, with a main front on Fifth St. of more than a block in extent.

The laboratory equipment is of the finest quality. The microscopes are of the best imported makes and all apparatus the best obtainable for the purpose. All facilities for the best instruction are equal to those to be found in the eastern centers of medical work. The entrance requirement is a first grade high school diploma, decidedly above that of most of the eastern schools. The course of instruction is very rigid, the sessions are long, over eight months each, and four years required for graduation, this college being the first in the northwest to take this step, and among the first in the country. The cost of tuition is exceedingly low especially so when the advantages offered are considered. And the well trained young men of the northwestern states who are looking forward to a medical education have come to appreciate the fact that it is no longer necessary to go east for the best medical training. This is shown by the very rapid increase in attendance at this college and the phenomenal inquiry of intending students for the approaching session, very greatly in excess of that of any previous year.

Asbury Methodist Hospital has also recently begun work on its long cherished plans for a splendid new building and the foundations are about ready for the superstructure. It will cover a full half block of ground, be three hundred feet in length and accommodate two hundred patients. This hospital is about five blocks from the college buildings and so near that the students need lose no time between lectures and clinics.

Physicians and students are now well convinced that the Twin-Cities have become a medical center in all respects equal in the quality and standard of its work, to any in the country.

MALIGNANT DISEASES OF THE SKIN.

This was a general topic for discussion at the last meeting of the American Dermatological Association at Washington.

Dr. E. B. Bronson, of New York, read a paper upon their classification and clinical features. He said that the import of the epithet malignant as applied to disease varies according to the circumstances under which it is employed. As most generally used the term implies a rapid, destructive course, tending to a fatal issue. It is thus used to designate certain forms or varieties of a disease of a severe and dangerous type, in contradistinction to other forms of the same disease that pursue a relatively milder or "benigner" course. Thus we have malignant and benign forms of syphilis and tuberculosis. Pernicious cell growths may originate either in the epithelial structures or in the connective tissue. In the one case the resulting disease is carcinoma, in the other sarcoma. All known "malignant" growths pertain to one or the other of these two diseases. An epithelioma, though, in the common acceptation of the term, a skin cancer, is not necessarily a malignant growth, only potentially so. A promising field for the study of malignancy in diseases of the skin and of the conditions relating to it is found in those diseases that, beginning as an inflammation or simple perversion of growth, end in malignant cancer. The epitheliomas that develop on old syphilitic lesions, on lupus, or from some indifferent local irritation of the skin, are common instances.

Their ætiology and pathology were discussed by Dr. M. B. Hartzell. Heredity, age, traumatism and long-continued slight irritations have long been considered as predisposing, in greater or less degree, to the occurrence of cancer. While heredity is no longer believed to play the important role formerly attributed to it, yet it is apparntly well settled that cancer is apt to occur in successive generation of some families, due, as is now believed, not to the inheritance of the disease, but to an inherited susceptibility. The influence of age upon the appearance of carcinoma is so very evident that it is no longer a matter for debate; in the great majority of cases the patient with cancer is past forty years of age, the exceptions to this rule being in most cases examples of rodent ulcer. Ribbert produced numerous tumors in the abdomen, uterus, diaphragm and pleura of an animal (a rabbit) by allowing free epithelial cells to diffuse through the peritoneal cavity. Cancer possesses a considerable number of features, clinical and pathological, which suggest the possibility of its being an infection, although other explanations are not absolutely precluded. We may regard it fairly well demonstrated that this neoplasm results from a profound and more or less permanent alteration of the mechanism of cell division. This alteration may result from long-continued irritation of a mechanical or chemical kind. The immediate causes are therefore multiple. In cases of xeroderma pigmentosum it may be assumed that some inborn defect of the skin exists.

"Their Treatment," was the subject of a paper by Dr. F. J. Shepherd, of Montreal.

As a surgeon who had to treat all kinds of malignant disease, wherever situated, excision of the growth and the adjacent lymphatic channels and glands seemed the most scientific procedure in the majority of cases. He said that all now believed in the local origin of cancer, and also that whenever found it should be quickly and completely removed. The disease being local, only local treatment was curative. Constitutional treatment was of no avail.

There are two forms of local treatment, removal by knife and removal by caustics. Surgeons favor the former and dermatologists the latter. The weak point in the treatment of malignant disease of the skin by caustics is that it postponed the removal of the neighboring lymphatic tissue and glands. Dr. Shepherd held that there may be malignant disease of the glands and yet they cannot be always told, as in the axillar and submaxillary region. Even the microscope would fail to detect the disease in the glands, the cancer cells in the very early stage being so few and far between. He instanced the magnificent results of the removal of mammary cancer by modern methods of very extensive operations. In Paget's disease of the nipple he advocated the removal of the whole breast. In cancer of the lips, scrotum, penis, vulva and whenever the skin was loose, removal by excision was advocated. Certain malignant ulcerations of the skin he admitted might be successfully treated by caustics, especially rodent ulcer and those slow-growing forms of epithelium situated in the regions somewhat removed from glands, as the nose, forehead, temples, cheeks, hands, and where the glands are not early affected. He had successfully employed free curetting and the after application of caustics in such cases. The best caustics were arsenic, chloride of zinc and caustic potash. Some hold that arsenic has a selective action; that is, an inflammation may be produced which will destroy cancer cells but not normal tissue. Before employing arsenic the ulceration should be curetted, or the epidermis over it should be destroyed by caustic potash. Several other methods of treatment were alluded to, such as the parenchymatous injections of alcohol, nitrate of silver, chloride of zinc, electrolysis, aniline dyes, and the injection of toxins. Coley's treatment is more suited to sarcoma than carcinoma. In sarcoma of the skin early and complete removal was the best treatmnet if the growth was local. When general, some cases have been successfully treated by the injection of a solution of arsenic. The injection of toxins had not proved successful in Dr. Shepherd's hands.—Medical Review of Reviews.

GASOLINE AS A DETERGENT.

Bruce L. Riordan, M.D., C.M., in a paper read before the I. A. R. S., Detroit (The Railway Surgeon, April 7, 1900), thus speaks of gasoline.

I have been using gasoline for the past four years in cleansing the field of operation, in cleansing traumatic wounds and in the subsequent dressings of all classes of wounds—not using water or other lotions or solutions. I was led to use gasoline, first, for the purpose of cleansing from injured parts what railway employes call black oil. We all know how black and grimy are the hands of railway employes engaged in shop work and about locomotives. While working in their ordinary occupation an accident occurs—fingers are crushed for instance. The injured person comes under the surgeon's care. The surgeon's first duty is to see that the injured parts and the surrounding tissues are thoroughly and surgically deterged or made surgically clean. Soap and warm water with a brush has been the usual means employed; also ether, alcohol, etc. I found the process to be slow, painful and not always thorough as we understand surgical cleanliness, and the idea of using gasoline as a detergent readily suggested itself—as this substance has been used for years to cleanse grease stains from clothing, gloves, etc.

I find that it does not irritate fresh wounds or granulating surfaces—any more than water does. It is best applied by taking an ordinary "wipe," made of cotton batting or sterilized gauze, and wiping the parts which it is desired to cleanse. The gasoline immediately evaporates and leaves the surface dry and perfectly free from grease. This will be found an advantage where sectional strapping by adhesive plaster is to be used, as the plaster adheres much more firmly when the skin is free from any oily substance.

My results, as far as early healing and absence of infection are concerned, have been most satisfactory, and include the treatment of all classes of wounds, and I cannot too strongly recommend to the members of this association gasoline as the best surgical detergent.

I am indebted to my friend, Dr. Goldie, of Toronto, who is a practical bacteriologist, for the following notes on its action as a detergent and antiseptic. He says:

"I have carried out in part the experiments in regard to the detergent and antiseptic properties of commercial gasoline. Weighed scrapings from the same arm from areas roughly two square inches were plated out, after washing with soap and water for five minutes and after scrubbing with gasoline for two minutes, also without any preparation.

Unsterilized skin gave......	173 colonies
Soap and water scrubbing..	20 colonies
Gasoline, 2 minutes' scrubbing	16 colonies

"Scrapings from skin—scrubbed with soap and water, then dressed with 1 to 60 carbolic acid over night, gave for same weight of scrapings 22 colonies.

"Gasoline poured on skin without rubbing gave 84 colonies; repeated with scrubbing with cotton wipe, gave only 7 colonies.

"Staphylococcus pyogenes aureus smeared on the skin as a film remain alive at the end of two minutes exposed to gasoline. I shall continue the experiments more fully and let you have report at early date."

This report corroborates my claim that gasoline is a valuable detergent. It may yet be found to be antiseptic.

I need hardly caution the members about the dangers of gasoline, but would just remind them that it is very inflammable. It should not be used carelessly about an exposed light. If it gets into cavities, such as the ears or eyes, it is irritating, just as chloroform or ether is. If applied to a surface where it can rapidly evaporate, it gives a cooling, pleasant sensation.

In subsequent dressings of wounds you may find the dressings adherent about line of incision or suture. Squeeze a few drops of gasoline on the adherent dressing and you will find that it can be readily detached. If you want to remove sutures from wound and they are masked by iodoform and exudations from wound, gasoline on a wipe, gently applied, will clear your field. it dissolves iodoform and the exudation then immediately evaporates, leaving a clean, dry surface. You can readily find your sutures and remove them.

Microscopic appearance of the skin after scrubbing with soap and water and after wiping the skin with gasoline showed that the cleansing effect went much deeper and cleaned out hair follicles, sebaceous glands and sweat ducts much more perfectly than scrubbing with soap and water could do.

CHANGES IN THE JOINTS AFTER TRAUMATIC LESIONS OF THE CORD.

Charcot was the first to show that disorders of nutrition caused by a lesion of the cord sometimes affect the joints and manifest themselves in the form of lesions of the articulations somewhat similar to those of acute or sub-acute rheumatism. Many observations have been since published, and M. Delprat has made a synopsis of the cases, which is referred to in a late French medical journal.*

Any trauma of the spinal axis, it seems, is capable of causing these joint lesions—gun-shot wounds, contusions of the cord with or without fracture, etc.

As regards locality the knee is most often affected. One or both sides may be involved or several joints may be attacked at once, knee-elbow, knee-hip, etc. The joint is distended with a variable quantity of fluid which may be sérous, opalescent, or even hemorrhagic. Pure blood, unlike in traumatic hemarthrosis, is found only in exceptional cases, one of the most curious of which is that of Alessandrini. This author narrates the case of a man with fracture of the fifth and sixth cervical vertebræ with unilateral compression of the cord and hemiplegia, who survived for six months. At the autopsy blood was found in the knee and all other joints of the right side. The total quantity was estimated at eight pounds.

The symptoms are of two classes, local and general. The local limited to the joint, the general those found in other medullary lesions as eschars, erythema or vesicular eruptions. These arthropathies, as in other trophic disturbances, may appear at different intervals after the injury. They have been noticed as soon as forty-eight hours, but as a rule from eight to fifteen days elapse.

Various prodromes precede the location in the joint. In addition to lightning pains, which may radiate through the entire limb, the joint itself is the site of a boring pain, of prickings, of a burning sensation which precede the effusion by some hours.

The effusion is never very abundant in the joint; often only one knee is affected, sometimes both. In rare cases many joints are involved. A peri articular edema sometimes accompanies the swelling of the joint, as in arthropathies following tabes. This effusion after traumas of the cord forms very rapidly. In twenty-four to forty-eight hours the joint is swollen; absorption is slow and the articulation becomes normal in about three weeks' time. It seems remarkable that the appearance and progress of this arthropathy are often parallel with that of the eschar.

The prognosis evidently is not very grave. They last but a short time and end in complete recovery. In this respect they differ from many other special arthropathies of a chronic type. Those from tabes, syringo-myelia, spontaneous fracture, etc., which render the limb useless for life.—The Railway Surgeon.

THE TREATMENT OF TYPHOID FEVER.

From the time in the early part of the present century, when typhoid fever was first discriminated from a number of other diseases presenting in common with it typhoid symptoms, constant additions have been made to our knowledge of this, one of the best-studied of the infectious diseases. Not much, it is true, has been added to the original description of the anatomic lesions or of the clinical features, but among other things, it has been made clear that the disease can not arise spontaneously, always requiring for its development the presence of the typhoid bacillus; that it may be unattended with pyrexia, and also with intestinal lesions; and, lastly, we have had developed the serum-reaction, by means of which the diagnosis can be confirmed with almost absolute certainty in the vast majority of cases. It is, therefore, perhaps not unreasonable to hope that we shall eventually come into possession of a specific therapeutic remedy. Recognition of the fact that the disease is largely spread through the agency of water contaminated by typhoid bacilli has also provided the physician with a powerful prophylactic weapon, with whose aid the morbidity has been greatly diminished, while the practice of systematic cold bathing has done much to lower the mortality.

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*Jour. de Med. et de Chirurg. Prat. 1900, p. 295.

*Berliner Klin. Woch., 1900, Nos. 23 and 24.

In a discussion of the treatment, Rump* in a recent communication on the subject of typhoid fever, after referring to the absence of any specific remedy, points out that not much is to be expected from intestinal antiseptics. Copious evacuation of the intestinal tract at the beginning of the disease by means of calomel may be secured. In the general management everything should be done that will contribute to a favorable course of the disease, and all injurious influences should be avoided. An airy, well-ventilated room should be provided, with suitable bed-covering, careful cleansing of the skin and the accessible mucous membrane, food appropriate to the state of the intestine, adequate administration of fluid, control of injurious temperature, and careful treatment of complications. Great proteid destruction, in consequence of the fever and possibly also of the action of toxic substances, should, so far as possible, be compensated for by food, especially fats and carbohydrates. The diet should consist of milk—cream—oatmeal soup with or without milk, rice soup, sago soup with or without beef-juice or soluble proteids. Eggs are often well borne in soup or in cognac. After the first afebrile week zwiebach, eggs, scraped meat and roast fowl may successively be permitted. In case of relapse a liquid diet should be resumed. Sufficient liquid should be administered—from two to three quarts a day. The fever may require treatment with cold water, which exerts a favorable influence also on the circulatory and the nervous system and the functions of the kidneys.—Jour. Am. Med. Assn., Aug. 18, 1900.

THE FALLACIES OF X-RAY DIAGNOSIS.

(New York Medical Journal, July 14, 1900.) Without belittling the value of Röntgen-ray photography in diagnosis, it is well to bear in mind that its worth may be overestimated. Common photography can be made, both by accident and design, to grotesquely distort the truth, and the Röntgen-ray picture may do the same.

Many instances of erroneous x-ray observations were reported by a special committee appointed by the American Surgical Association at its recent meetings. A headless pin supposed to have lodged in the œsophagus was apparently photographed, but the irregular outline of the shadow led to an investigation which showed that the apparent shadow of the pin was caused by a scratch on the glass under the gelatin. No operation was done and the pin passed by the anus.

Bits of clothing, clots of blood, etc., have made a shadow simulating bullets.

Needles and pins have appeared in the photographs, which upon operation have not been found after most diligent search.

Not only do x-ray photographs sometimes indicate the presence of foreign bodies which are not present, but even when they are known to be there, the surgeon may be misled as to their location. The committee data show that our ability to draw accurate conclusions from Röntgen-ray pictures is often limited. Especially in case of fracture is this true.

Misleading pictures, either erroneously or by design may be admitted as evidence in malpractice cases. How untrustworthy they are when unsupported by other evidence is shown by the fact that good clinical results in fracture cases, without impairment of function or palpable deformity, may be made to appear very bad ones in skiagraphs. Fractures may be shown that have no existence; others known to exist may not be shown.

An expression of opinion on this subject by such an important body as the American Surgical Association is very fortunate.

THE PROPER TIME TO BEGIN THE TREATMENT OF CROSS EYES.

Strabismus usually appears between the second and sixth years of the patient's life. In fact more than fifty per cent of all cases of squint appears before the age of three years. The deviation from parallelism may be noticed in the beginning only occasionally, but in the course of a few weeks or months the squint becomes constant and more marked in degree. Also at first it may be difficult or impossibe to say which eye is more at fault, but if the case does not receive treatment the squint may become monocular and the prognosis is then much more unfavorable. Parents often tell the oculist that they have noticed that their children's eyes were "turned" for one, two or three or more years but treatment has been delayed because the patients were thought too young. There was also the hope that the affliction would be outgrown. This is an error and often a most unfortunate one because it is during the early period of heterotropia that the ocular changes are developed and habits formed which are so difficult or impossible to overcome by later treatment. True nonparaletic strabismus is not "outgrown," though once in a great while a squinting eye has become straight spontaneously. But in these exceptional cases it will be found that the patient has one amblyopic eye resulting, and the sight will remain poor regardless of the most skillful attention. Fixation and fusion while developed during the first few weeks of life are for a year or more very unstable, hence easily perverted and lost. And in many cases of strabismus the ability to "fix" an object with the offending eye, when the good one is covered, is lacking or very deficient though fixation is not lost as long as the squint is periodic or alterating. False fixation is rarely ever seen in strabismus of less duration than six months, and is usually present in those cases of very early development of the squint with delay in treatment. False fixation occurs in a very large percentage of monolateral squint, and in these cases a good cosmetic result only can be obtained from any treatment and that with much uncertainty. In other neglected cases after the eyes are brought into parallelism by operative measures the patients are unable to fuse the images of the two eyes even after much persistance, and great annoyance and dissatisfaction result. In nearly all cases of squint of long standing structural changes take place in the ocular muscles themselves, with limited motion of the eyes in certain directions, and the correction of the deformity becomes more complicated and difficult. In not a few cases of strabismus the vision of the squinting eye deteriorates due apparently to its lack of use, and sometimes the loss of vision is very rapid.

It will therefore be seen that there are many serious disadvantages in delaying the treatment of strabismus which can be avoided by beginning treatment just as soon as it is noticed that the child's eyes are crossed. This is the time to interfere no matter how young the-patient may be, and this is the proper time to begin the treatment of cross-eyes. It is not the purpose of this paper to discuss the treatment of cross-eyes, but it may be well to add that it is both operative and non-operative. Where the patients are seen in time, and all the other means of correction are duly carried out many of the cases will require no operative procedure whatever. Parents should be made to understand this fact for they frequently delay bringing their children for treatment because of the naturual but groundless fear of "having the eyes cut."—Dr. Vard H. Hulen, in Occidental Med. Times, 406 Sutter St.

AMPUTATION AND LONGEVITY.

A prominent manufacturer of artificial limbs says: "By looking over books which comprise the history of many thousand cripples we arrive at the conclusion that dismemberment plays no part whatever in shortening life. Our records date back to 1853, and it is an astonishing fact that, of the entire number of our patrons, less than 25 per cent. have died, and most of those from old age or accident; and in no case can we learn of a death that can be directly ascribed to the loss of a limb. As we investigate this subject more thoroughly we are persuaded that amputations enhance vitality, render it not only probable, but positive, that on account of amputations the lives of the subjects will be prolonged and free from disease." No record can be found of a cripple becoming insane, and but very few cases where they have committed suicide. The mental as well as the vital forces appear to become strengthened by the dismemberment.

It is a noticeable fact that persons who lose their legs become very powerful in their arms, large in chest, and great in girth, and persons who lose their arms become powerful in their legs and large of girth. The loss of parts of the body conduces to health, life and development. Dare, Melrose, Conway, Leland and Fitzpatrick, one-legged acrobats whose muscular developments are the envy of the world, have never been surpassed by athletes with natural limbs.

A reasonable explanation may be found in the hypothesis that the removal of a part of the body lessens the demand on the vital forces and permits the supplying reservoirs to contribute more abundantly to the remaining members. If it overtaxes the heart to force the blood through all the avenues of the body, will not its labors be lessened if a few of those avenues are forever removed? And will not the remaining avenues receive a larger proportion of the life-giving essences? If the nervous system is overburdened, will not the tax be lessened if a part of the nerve organization be removed? If a tree is permitted to grow, it will sap itself by the many choking branches that come from its trunk. The cutting off of these branches and the trimming up of the limbs always give new vigor to the tree. It will grow larger, stronger and will live longer. A cripple is neither a cynic nor a pessimist. His misfortune has driven from him whatever there my be of the misanthropic. His health is always good, and he is therefore happier and more contented than the dyspeptic or rheumatic. Nature, with her usual generosity, compensates for every misfortune. Those who seem the most afflicted are often happiest; their minds have been prepared to endure misfortune.—Med. Age.

THE ORIGIN OF LIFE.

Dr. Wilson, of Columbia University, in discussing the origin of life and heredity in the International Monthly, refers to the recent discovery of Loeb, carried on last year at the Wood's Holl Biological Laboratory, following in logical sequence those of Richard Hartwig and Morgan, that the egg may be fertilized by chemical stimulus without the participation of male element. Large numbers of perfect larva were produced from eggs, which, without fertilization, were first treated with a weak solution of magnesium chloride and then transferred to normal sea water.

The decisive experiments show, says Prof. Wilson, that the egg is capable of complete development, without union with spermatozoön, as a result of chemical stimulus; and they indicate that even in normal fertilization we must regard the stimulus to development as being by a specific substance carried by the spermatazoön.

Loeb's experiments with those of Herbst indicate that the normal equilibrium of chemical conditions in the protoplasm are maintained by the conditions of the environment. The experiments give ground for the remarkable conclusion that the substances dissolved in the sea water are individually poisonous to the egg, but are normally so balanced as to neutralize one another's injurious effects and maintain the equilibrum of the egg. If this armed neutrality be disturbed, the egg responds, undergoing changes and dying if the change be too violent, passing through an abnormal development and giving rise to monstrous embryos if the new conditions be less favorable, but under appropriate stimulus, being, as it were, released from bondage and rendered free to run its normal course of development.

The Popular Science Monthly for June, in speaking of Loeb's experiment, says eggs thus treated segmented and underwent a development which, though somewhat slower than usual was otherwise normal and produced perfect larva. This effect cannot properly be called fertilization in the ordinary sense of the word, but is rather to be regarded as artificially produced parthenogenesis—development of ovum without fertilization.

It points out unmistakably, however, that in normal fertilization the spermatozoön incites the egg to development by bringing to it certain definite chemical substances.—Medical Times.

THE TREATMENT OF EMPYEMA.

Martin (Therapeutic Gazette, August 15, 1900) writes first of the prophylaxis of empyema, i.e. prompt aspiration or continuous drainage of inflammatory effusions as soon as their presence is determined. Do not wait for absorption. Strict cleanliness is imperative. The site of aspiration is ordinarily the eighth interspace, slightly anterior to the angle of the scapula. Anæsthesia may be obtained by either cocaine or by freezing with ice and salt, or ethyl chloride. The skin should be punctured with a narrow bladed knife before plunging the needle into the pleural cavity, to avoid carrying infection from the skin into the cavity. Carry the needle across the upper border of the rib; do not withdraw the fluid too rapidly.

If there is reaccumulation after the third aspiration, or if the fluid in the pleural cavity becomes purulent, continuous siphon drainage is indicated.

The skin is incised in the eighth interspace in a line with the posterior axillary fold. A trochar and cannula the size of the little finger is thrust upward and inward until it reaches the pus cavity, keeping the cutting edge of the spear point turned away from the under border of the rib. Withdraw the trochar and slip through the cannula a rubber tube the size of the trochar. This tube, marked by nicks at points two and four inches from its extremity, four feet long and clamped below, is introduced into the thoracic cavity, the cannula is slipped out and down to the clamp which is reapplied above the cannula, which can now be removed. The tube is attached to a glass tube which passes through the perforated cork of a glass jar and into some antiseptic solution. There must be a second opening through the cork through which passes another short glass tube, to allow for the exit of air. The end of the rubber tube should be just in the pus cavity, and fastened by a silk thread to the skin by adhesive plaster. The clamp on the drainage tube is loosened, the jar lowered two or three feet below the chest, and the pus begins immediately to run into the jar, which must be emptied as soon as full. The lung expands to take the place of the pus evacuated, since no air is allowed into the pleural cavity. As soon as the patient can walk a small bottle is substituted for the jar and hung from the waist as low as the knees or ankle. This method of siphon drainage of Bulan is simple, cleanly, and favors expansion of the lung to obliterate the pus cavity.

In chronic empyema with deformity and thickened pleura a more or less extensive resection of the ribs is necessary in accordance with the size of the cavity to be obliterated, for all hope of the lung expanding to fill the cavity is lost.

In some cases, however, Delorme has shown that a lung tied down by fibrinous deposits of months or years may still expand if this imperfectly organized deposit is stripped off. A trap door into the thoracic is opened, the thickened fibrinous exudate covering the lung is dissected and torn away, a drainage tube is inserted and the opening into the thorax closed. This brilliant operation has been successful in a number of cases, the long compressed or unexpanded lung, expanding to fill the thoracic cavity and taking part in respiration.

CLIMATE AND DISEASES OF CHINA.

If the war now being waged by the civilized world against China should be a lengthy one, it will be incumbent upon the governments of the several powers engaged to pay particular attention to the numbers, composition, and equipment of the medical and nursing staff. By neglect of this most necessary branch of the military service serious results are certain to follow. This has been recently evidenced in a conclusive manner among the British troops in South Africa.

The climate of China is, according to trustworthy accounts, and especially in those portions in which American soldiers will be called upon to operate, decidedly insalubrious to men of the white race. In the region in which are situated Peking, Tien-Tsin, and Chefoo, the heat in the summer season is tropical, while during three winter months the thermometer goes as low as 15 degrees Centigrade below zero. These extremes of temperature are characteristic of this part of the Middle Kingdom and peculiarly so of Peking, and consequently very trying to those not acclimatized. Rain never falls in winter, and snow but on rare occasions. As a matter of fact the rainfall in and about Peking is slight. The greatest extremes of climate are exhibited in Shan-Si and portions of Shan-Tung. The rivers and streams in these districts are deeply frozen, as is the Gulf of Pechili along the coast line to eight or ten miles from shore. The change from heat to cold and vice versa is extremely sudden, and is therefore certain to have a bad effect upon the health of foreigners. The New York Herald of August 12th says, in an article referring to the diseases of Northern China, "that on acount of the extreme character of the climate, the diseases follow the seasons in a well-marked order. During winter, besides the direct results of the action of cold, such as acute affections of the lungs and rheumatism, typhoid epidemics are noted, as well as typhus fever and diphtheria; their development is due evidently to the confinement to which the rigors of winter condemn the population, which is shut up in narrow houses, generally in overheated air, where the disease-carrying microbes find favorable conditions for development. On the other hand, when the temperature becomes milder, the inhabitants leave their houses to live very much in the open air, and typhoid disappears almost absolutely. Soon, however, under the influence of the heavy rainfalls of the months of July and August, the soil of the cities impregnated with filth exhales miasma, which gives rise to poisoning, manifested under form of fevers, sometimes dangerous, of diarrhœa and dysentery."

Smallpox is the greatest and most deadly scourge of China, the disease always being present to a greater or less extent. This fact is undoubtedly due to the disgustingly filthy sanitary conditions in which the vast majority of the Chinese people live. The three diseases, then, with which an invading army must contend in China are typhoid fever, dysentery, and smallpox. Every care should and doubtless will be taken to ward off and effectually to fight these maladies. It need scarcely be said that one of the most important protective measures to be enforced will be the providing of efficient means of sterilizing water. Another point only second in importance to that just mentioned is the necessity of revaccinating the soldiers and sailors whose duty will call them to the far East. China has not agreed to the Geneva convention, and the Red Cross Society is not represented in its army. The allied forces must be equipped to meet any contingency, as the wounded who may fall into the hands of the Chinese will not receive the care always given them among civilized nations. The disastrous results from an inadequate medical and nursing staff has lately had so striking an object lesson in the South African campaign that there can be no excuse for pleading ignorance in this respect, and if the government of the United States does not profit by the experience so dearly bought by the British, the reckoning at the hands of the American public will surely be a heavy one.—Medical Record.

TRANSFUSION.

The 118th Harveian Festival was held in the Hall of the Royal College of Physicians, Edinburgh, on June 15. The society met at six o'clock, when the president, Professor Thomas Annandale, delivered the Harveian Oration on Transfusion.

Professor Annandale, having first given a brief historical account of transfusion, and of the different suggestions, experiments and methods employed from time to time, referred to the more recent experiments and observations made by physiologists and pathologists in connection with the subject, and discussed the results of the more recent studies upon the behavior of the blood and its constituents after it had been injected into a patient's circulation. He then described the various methods employed at the present time, and enumerated the advantages and disadvantages of each. As a result of his experience and consideration of the practice of transfusion, he suggested the following conclusions in regard to the operation, confining these conclusions to cases suffering from loss of blood, as he was of opinion that at the present time transfusion for anæmia and other abnormal conditions of the blood did not rest upon any satisfactory basis, although from time to time a few successful cases of the kind had been recorded: 1. That it may be a valuable aid in saving life in the case of patients suffering from serious loss of blood, provided they show no signs of reaction after the ordinary means have been carefully tried. 2. That the best form of transfusion for ordinary use is the injection into a vein of human blood mixed with a solution of phosphate of soda and kept at the temperature of ordinary blood heat so as to prevent coagulation. 3. That, if the former method cannot be properly carried out, the injection into a vein of saline solution in considerable quantities is the next best procedure (sodium chloride one drachm to the pint of warm water is the most convenient solution). 4. That intraperitoneal injections of warm water or of warm saline solutions are most likely to be useful when the abdomen has already been opened by operation, for without such an opening there is always a risk of handling the intestines or other internal organs, with the inserted trocar and cannula. 5. That injections of warm water or of warm saline solutions into the rectum is a safe procedure which may be usefully employed in any sudden emergency. The importance of strict antiseptic precautions in connection with transfusion was strongly advocated, and the fact that Nature has a wonderful power in relieving even great loss of blood was stated in the following terms: "In considering the value of transfusion in saving the life of patients suffering from loss of blood from any cause, it must always be kept in mind that Nature has remarkable powers in overcoming loss of blood, and all have met with cases in which death seemed certain, but which have rallied and recovered. Transfusion, then, should not be lightly practiced, and should certainly not be practiced unless it can be performed at once and with all safe precautions."—British Medical Journal.

FIFTY YEARS OF DEAF-MUTISM.—HEARING AND SPEECH RESTORED THROUGH A FALL.

Thos, H. Temon, age 69; white; protestant; upholsterer by trade; born in U. S. Hospital, case 22,353, Pittsburg Homœopathic Hospital.

History: When ten years old had smallpox, which left him with a diseased condition of both ears, which discharged for nearly six weeks, and hearing was entirely lost. He could still talk, and continued to talk for two years. During this time the talking became less and less distinct until he gradually lost the power of speech entirely, and became a deaf mute. In the meantime his health remained good, and he was treated from time to time by specialists, but with no improvement in hearing or speech. Eyes remained good; he read a great deal; but was obliged to converse by means of finger signs or writing.

July 9, 1900, while fixing some vines at his home in East End, he fell from a step-ladder to the ground, and was picked up unconscious, and remained so for some time. The fall had bruised his shoulders, hip and eyes. While going to the hospital in ambulance, he inquired where he was being taken. He talked all the way in. When he arrived at hospital he denied being Mr. Temon, and gave another name. After being in bed in the wards two hours, as he tells the story now, he heard his own voice for the first time in over fifty years. He is totally unconscious of having spoken before, either in the ambulance or emergency ward.

When he first heard his own voice he was very trembly and nervous. He left the hospital able to see, hear and speak. The hearing, however was confined to one ear; the other is totally deaf.—Pennsylvania Medical Journal, August, 1900.

Anti-streptococcus Serum was used by Dr. A. W. Harrison* in a very severe case of facial erysipelas, with exceedingly gratifying results. At first the patient was given quinine and the tincture of iron perchloride internally, and equal parts of ichthyol and lanum externally. In spite of these measures, the inflammation extended and the general condition became worse. Within three days, the iron had to be stopped because of intolerance. By that time delirium had supervened. Four days later the natient was so unconscious that she passed all excretions in bed. She was then receiving half an ounce of brandy every hour. Three days later, the temperature being still high and weakness more marked, with muttering delirium, digitalis and strychnine were ordered and an ice bag was applied to the head. Nevertheless, the patient continued to sink and was practically moribund on the second day following, when she received the first injection of 10 Cc. (2½ fl. dr.) of the serum. Four hours later, she had a short interval of consciousness; and, four hours later still, the temperature had materially declined and the quality of the pulse had improved. Another injection of 10 Cc. was given with the result that both temperature and pulse were below 100° F. the following morning. A third injection was then given, followed by a fourth in the evening. By the next day the delirium had terminated. After this, there was one injection daily until eight in all had been given. Convalescence was rapid and uninterrupted. The doctor is very positively of the opinion that the serum saved the patient's life, which could not have lasted twenty-four hours longer without it.—Merck's Archives.

Hedonal, a new product of the urethane group, is the subject of reports by Drs. Paul Schuster and A. Eulenburg, the former using the remedy in 38 and the latter in 41 cases of insomnia, with practically identical results. On account of its slight solubility in water, it is best given dry on the tongue and washed down with some aromatic elixir to correct the rather disagreeable taste that it leaves in the mouth. Doses of less than 1 Gm. (15 grn.) were generally inefficient, and, in many cases, as much as 2 Gm. (30 grn.) was needed to produce sleep for six or seven hours. When successful the administration of the drug was generally followed within a half hour by a quiet, dreamless sleep. As hedonal is devoid of narcotic powers, it failed uniformly in cases of insomnia due to pain, as in neuralgia, tabes dorsalis, etc., and it was equally inert in cases of maniacal excitement. The best results were obtained in simple neurasthenic conditions. The remedy was taken without manifest repugnance by most patients, and no unfortunate after-effects were observed, although in one case ten doses of 2 Gm. (30 grn.) each were given within twelve days. Diuresis, which was a constant result in animals experimented on, was by no means uniformly observed, and in no case was albumin or sugar found in the urine. Both reporters agree that hedonal is worthy of a place in the materia medica.—Merck's Archives.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, OCTOBER, 1900. No. 10.

Symposium on Serotherapy and Diphtheria.

ANTISTREPTOCOCCIC SERUM, WITH CASES.

By Charles H. Hunter, A. M., M. D.,
Minneapolis.

The success of the diphtheria antitoxin now quite undisputed, led physicians to be extremely hopeful that serums for other infections would be equally effective. This hope does not seem, as yet, to have been realized. Pneumococci serum for pneumonia has been a good deal used, but it does not appear to have been followed by better results than follow the older methods of treatment. Tetanus serum does not seem to have realized the hopes of its introducers.

I have gotten together a few cases of my own septic infections treated with antistreptococcic serum, and some others gotten from the hospitals of the Twin Cities, the study of which will, I think, lead one not to be over-confident of its value. I will say nothing of the methods of production of the different manufacturers of serums, for so far as I know there is no great difference in their preparation, and my experience with the different makes has not been sufficient to be of value. Suffice it to say that all makers claim antistreptococcic serum itself is not harmful in any dose. Any untoward effects, as rashes, and the like, are due to preservatives used or to the products of deterioration. The matter of dosage of the antitoxin used seems to be largely one of judgment, and not susceptible to rigid limitations, as the amount of toxines in a body to be overcome must be quite beyond our powers of estimation, so that, as the antitoxin seems harmless it is better to err on the side of large rather than small doses.

That you may yourself judge of the effects of the serum I will read the history of a number of the most striking of this list of cases that I have tabulated. You will notice that they are so tabulated as to show the supposed source of infection, the germ of infection when determined, then the clinical course, the time in the course of the disease when the serum treatment was instituted, its effects, if any, and finally the outcome of the case.

The first two were cases of meningitis. Case "A," seen in consultation with Dr. Tupper, was that of a child eighteen months old. The usual march of the disease was unhindered, but rather hastened in the doctor's opinion.

The second was that of a young woman who certainly was very ill of meningitis, the Meningococcus being demonstrated by Dr. Wilson to be present in the fluid obtained by a lumbar puncture. The symptoms were various and not necessarily fatal. No marked changes for the better or worse were noted after each dose of serum. Extensive rashes appeared in the second week of the illness. The serum used was Mulford's. I would be unable to say that the recovery was particularly influenced by the serum.

The other two were puerperal cases, the one mild and the other serious from complications.

Case five was remarkable on account of the amount of serum used—being something over $60 worth in all. Its long continuance, complicated with pneumonia, rapid pulse, the involuntary evacuations, and the pulse of 140, are witnesses of its seriousness. The reporter of the case, Dr. Clarke, interne at Minneapolis City Hospital, may have been correct in attributing her salvation to the serum, still the course of eight weeks does not seem shorter, nor on the whole the symptoms more severe, than we witness in septic fevers and in which recovery takes place without the serum.

The ten cases of erysipelas present the usual variation of this erratic infection. The average length of stay of fifteen days is certainly not longer than usual. But the symptoms do not stop after the administration of the serum as they are wont to do after the administration of diphtheria antitoxin.

Case 15 shows that the attendant must not abâte his vigilance in the use of aseptic methods because of the use of the serum. One can but feel that free incision and drainage are much more potent to check sepsis than the antitoxin.

The five cases reported from St. Paul City Hospital and St. Luke's Hospital, are not more favorable to the reputation of the serum. Four recovered with no sudden stopping of the symptoms fairly attributable to the serum, while the one case of septic peritonitis showed no retardation in the accustomed march of this malady. While out of these twenty cases only two deaths are recorded the mortality estimate can be of little value, on account of the fewness of the cases, and also on account of the varied character of the infections.

RECORD OF TWENTY CASES IN WHICH ANTISTREPTOCOCCIN WAS USED.

Case	Reporter	Age	Source of Infection	Bacterium	Clinical Course	Treatment	Outcome
A	Dr. H.	18 mo.	Gastro-Enteritis, 3 weeks.	No fluid from Lumber Puncture.	Convulsions—Delirum—Stupor—Coma. Kernig's Sign. T. 103.	Sedatives—Laxatives. One Bulb Antistrep. Serum on 4th day. Steady evolution of symptoms.	Death on 5th day.
B	Dr. H.	22		Meningococcus. Meningitis, from L. P.	Slow onset. Dullness—Stupor—Headache—Backache—Kernig's Sign. T. 107. Unconscious two weeks. No leucocytosis. Oposthotonos.	Bromides—Symptomatic. On 3d day 1 B. of A. S. and each day for a period of three days. Daily inunctions into back of Ung. Crede.	Slow recovery of sense by end of 2nd week and of strength and health by 4th week.
C	Dr. H.	26	Abortus one week previous to first visit.		Pelvic pain—slight fever, Purulent leucorrhoea. 2nd day improvement. 4th day chill. T. 102. Abdominal pain. Tenderness and rigidity—Hepatic region—Tympanites—Foul loose stools. Restlessness—anxious facies.	Uterus swabbed with Bich. Sol. Symptomatic Ung. Crede rubbed into the abdomen. 4th day 1 B. of A. S. No amelioration of symptoms until 6th day.	Gradual recovery by 14th day.
D	Dr. H.	30	Delivery one week before first visit.		Pelvic pain. Abundant purulent leucorrhoea. Uterus fixed. Left B. L. Swollen and tender Tympany—mucous stools. Chill T. 101. Leucocyte count 10,000. In fifth week pains in chest. Local pleuritic rales in the left ant chest. Irregular rise and fall of temperature for ten days. Albumin casts and blood appeared in urine for three weeks. Gradual recovery at end of seventh week, with symptomatic treatment.	Local Antisepsis. Symptomatic P. V. incision and drainage. ——oz. of pus. In 3 weeks, T. 101. 4th week pain in abd. and chest, cough. In 4th week 1 B. of A.—S. Adm. Temp. rose to 104. Dropped next day to normal. In 5th week pain in chest and cough returned. T. 104½. Dropped to normal next day.	
5	City H.	39	Cellulitis of arm and hand from poison wound.		Cut in hand—Cellulitis hand and arm. T. 100 to 104 for three weeks. Gradual fall through next four weeks. Pulse from 120 to 145. Nausea, vomiting and insomnia, pneumonia on the 16th day. Involuntary evacutations. Slow convalescence.	Incisions in arm and hand, 1 B. (10 c. c.) A. S. every 6 hrs. for 23 days. (5 doses of 2 B. each) Proto newclein gr. every 2 hours. Irregular for whole illness. Ung. Crede for 2 weeks, inunctions before and during pneumonia. Other symptomatic treatment. pro re nata.	Gradual but complete recovery by the end of the 8th week.
6	City H.	39			That of mild facial Erysipelas, T. 101, P. 110.	1 B. of A. S. followed by sudden fall of temp. Strych., quinine, etc.	Recovery by the end of 3d week. Temp. normal on 4th day.
7	City H.	23			Facial Erysipelas. T. 104 5-10. Face badly swollen and eyes closed.	2 B. of A. S. followed at once by fall of temp. and amelioration of all symptoms.	Complete recovery.
8	City H.				Facial erysipelas.	Anti S. 1 B. three times when temp was 105½. Temp. fell after each injection. Remained normal after third.	Discharged after 9th day.
9	City H.	35			Facial erysipelas. Temp. 103—P. 105. Temp. fell to normal and remained until 16th day when it rose to 103. Fell to normal and remained normal.	A. S. 2 B. Adm, when temp. was 103. Fell to normal. Rose to 103 on 18th day. 2 B. A. S. given. Temp. fell to normal and remained normal.	Discharged 18th day.
10	City H.	35	Facial Erysipelas.		Temp. 104 to 100. P. 145 even when Temp. normal, until the 11th day then 110—80.	A. S, 2 B. given when temp. was 104; fell to 100, rise to 103 one B. injected. Temp. fell to normal and remained.	Discharged on the 16th day.
11	City H.	25	Facial Erysipelas.		Temp. 103 to 101½. P. 130 to 100, pulse remained high when temp. low.	On the first day 2 B. of A. S.; on the second day 1 B.; on the third day 1 B. twice; on the fourth none; on the fifth 2 B. A. S. Temp. fell after each treatment. On the 6th day temp. fell to normal, slight elevations until the 16th day.	Discharged on the 22d day.
12	City H.	30	Facial Erysipelas.		Temp. 101½ to 100. Pulse 100—75.	On the 1st day 1 B. of A. S., temp. 101½ to 100, fell to 99 then rose to 101½, fell to normal and remained.	Discharged on the 11th day.
13	City H.	35	Facial Erysipelas.		Temp. 101½ to 100—97½. Pulse 98, 80 and 70.	One B. per day, not repeated. Temp. dropped to normal and rose to 101 3-10, then to normal and remained.	Discharged on the 9th day.
14	City H.	30	Broken Jaw, wired.		On the 20th day facial erysipelas of both cheeks and forehead. Temp. 101 to 102. First began near internal canthus.	On the 2d day 2 B. of A. S.; on the third day 1 A. S.	Still in hospital.
15	City H.	50	Cut on the head.		On the 4th day erysipelas began in the wound and spread over the scalp. Temp. 102 to 103. Pulse 120. On the 15th day abscesses of scalp developed. Temp. rose to 105 after incision only to fall promptly.	On the 1st day 1 B. of A. S.; on the 2d day 1 B. of A. S.; Lysis to the 8th day; temp. rose to 103. Abscesses on the head incised; 2 B. of A. S.	Still in hospital.
16	City H.	25			Facial erysipelas. Temp. 101 4-10.	On 1st day 1 B. of A. S. Lysis.	Discharged on the 7th day.
17	City H. St. P.		Puerperal.		Serious long continued Septic fever.	Large doses of A. S. frequently repeated.	Recovery not attributed to the serum by the attendant.
18	St. L. H.		Puerperal.		Septic fever.	Large doses of serum—no reaction.	Recovery.
19	St. L. H.		Post Operative.		Temp. 102.	One B. of A. S. Sudden fall to normal.	Recovery.
20	St. L. H.		Pus-tubes.		Septic peritonitis.	Large doses of serum—no effects.	Death in a few days.

In St. Joseph's Hospital the serum has been used in five septic cases of which two died. No effects were noted. No details to be had.

What is important to note is that there are no changes in the evolution of the symptoms and no variations in the march of the disease from that we are accustomed to note in the variable severity of these infections. There is no sudden halt in the disease and quick restoration to health that we associate with the use of a specific. I recognize that it is a possibly fair criticism of the treatment of these twenty cases that the initial dose was not large enough or given early enough to establish a criterion of the value of the serum. The serum obtained was that most readily got in our markets, Mulford's and Parke, Davis & Co.'s, and they have the advantage at least, according to the accompanying circulars, of being fresh and equally effective in all cases, and, above all, free from any harmful effect in any dose. Undoubtedly this statement that any serum will be equally effective in all forms of streptococcic infection loses the chief point of the problem. Our present knowledge warrants the inference that every coccus elaborates its own toxin as each plant elaborates its own alkaloid, and to be effective antitoxin must bear some relation to this toxin. This fact may account for the variable results in the reported cases.

It would follow that before a serum can be selected with precision a bacterological investigation of each case will have to be made or some clinical method more discriminating than those now in use for recognizing the exact kind of infection will have to be devised.

That a useful judgment of the value of these remedies cannot fairly be expected from the general practitioner is coming to be recognized. Accordingly a movement is on foot, starting, I believe, in New York, to refer such remedies to some central authoritative body or university for investigation before their general recommendation. In the interest of general economy of effort, as well as for the preservation of a child-like trust in the efficacy of internal medication, we can but wish such a movement God speed.

Syndicate Block.

ON THE PHARMACOPŒIAL RECOGNITION OF DIPHTHERIA ANTITOXIN.

By Joseph W. England.

There is no fact in clinical medicine more clearly established than that the human body has within it natural resources for combatting disease processes and effects. But these resources have their limitations in the same individual at a given time, and in different individuals at different times, and become progressively weaker after the limit has been reached and passed. The inadequacy in some cases, of the natural resources to successfully combat disease conditions is well known, but it is particularly obvious in certain infectious diseases (e. g. diphtheria, smallpox, tetanus, septicemia, etc.), where the bacteria causing the disease multiply with almost unthinkable rapidity, and the decomposition products (toxins) are so large in quantity and so virulent in character that they tax the system to its utmost to eliminate them, or, this failing, they cause death.

Within the last five years, however, there has been placed upon the market medicinal products which, injected into a body infected with certain diseases, have the property of strengthening the natural resources to combat conditions arising from the disease. These products are called "Antitoxins" or "Serums," and their use the "Serum treatment."

In their preparation, the natural processes that take place inside of the human body in its fight to overcome infection and its effects are duplicated outside of the human body, that is, in the serum of animals. An "Antitoxin," therefore, is a modified serum (properly purified) which has the property of combatting infectious diseases and their effects in the same manner as that possessed by the human body itself.

In the preparation of smallpox vaccine, the micro-organism of smallpox is developed in calves, and is then transfered to the patient, who elaborates in his own body, from the organism, the antitoxin necessary to confer immunity.

Diphtheria Antitoxin acts in the human body probably by chemically destroying the poisonous products of the bacteria causing the infection. It exhibits, also, a physiological action, supplying to the body the same elements that the body develops to protect itself against the poisonous bacterial invasion.

The true nature of the active principle of Diphtheria Antitoxin is an unsolved problem. It may be an organic substance, an organized product, or an enzyme or soluble ferment (which are proteid or nucleo-proteid in chemical character). The small dose of antitoxin, its rapidity of action, and its profound influence upon the human system, would suggest that it might be enzymic in character, although there is no positive evidence to sustain this theory. The power of some enzymes for work is almost unlimited. A sample of invertase which had inverted 100,000 times its own weight of cane sugar was found by O'Sullivan and Thompson to be still active. ("Soluble Ferments and Fermentations," p. 120, J. Reynolds Green.)

The preparation of antitoxins is of interest. That of diphtheria antitoxin is typical of the others, and is as follows: A culture of diphtheria bacilli is grown upon Loeffler's solidified blood serum, and the colonies grown are transplanted into faintly alkaline bouillon (in flasks) and kept at a uniform temperature of 37° C. The bacilli rapidly multiply and produce large quantities of a highly poisonous product of toxin (diphtheria toxin), after which the bacilli are destroyed by the addition of 1 per cent. trikresol, and their dead bodies are removed by filtration.

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*Read before the meeting of the American Pharmaceutical Association, held in Richmond, Va., May, 1900.

The toxicity of the toxin, or rather its antagonism to antitoxin, is found by injecting it into guinea pigs, the standard of strength being such that 0.01 to 0.1 cc. should kill the control animal in from 24 to 36 hours. The antitoxin is then prepared by injecting the toxin into horses, which are used because they are most easily handled, and because they yield large quantities of a serum that is less irritating in its effects upon the human system than that of other animals. Further, horses are naturally immune to diphtheria, and this immunity is greatly strengthened by the toxin treatment. Disease-free animals only are employed, the mallein test being used to detect glanders, and the tuberculin test for tuberculosis.

The first injection of the toxin is about 1 cc., and it is repeated every 5 to 8 days in gradually increasing amounts. The limit of toleration is generally reached in from 9 to 12 weeks, when as much as 300 cc. may be borne. As soon as the injection of large amounts of toxin into the horse causes but a slight rise of temperature, trial bleedings are made, and the product is tested. If the test proves satisfactory the horse is bled quite freely, the blood being collected in sterile bottles and cooled for about a day. The serum is removed from the coagulum with a pipette, and preserved by the addition of 0.4 per cent. of trikresol. The serum is then standardized. The standardization is expressed in immunizing units. An immunizing unit is ten times the quantity of serum that is necessary to save from death a 300-gram guinea pig that has received ten times its minimum fatal dose of toxin (determined by a series of experimnts upon average animals per gram of body weight).

This test is very accurate. Where for example, 9 units of antitoxin have failed to save the life of a certain guinea pig, 10 units of the same antitoxin have saved the life of an animal of the same family, weight, etc.

This finished antitoxin is placed in glass tubes which should contain a fixed number of units to each cc., ranging from 250 to 500 units. The most useful strength is 500 units to each cc. The immunizing dose is from 300 to 500 units, the curative dose from 2,000 to 10,000 units. The glass tubes are hermetically sealed. The antitoxin retains its strength for six months or longer. The trikresol present makes the serum slightly fluorescent, but does not precipitate any active principle. So long as there has been no septic change in the preparation (and this can be absolutely prevented with trikresol), there need be no fear of overdosing.

In fact, wonderful as has been the reduction of the mortality of diphtheria with the antitoxin treatment, it would have been still more pronounced had the fact been earlier recognized that the time to give diphtheria antitoxin is as early as possible in the infection, before large quantities of the toxins have been formed, and that the dose should be as large as the exigencies of each particular case will permit. It is better by far to give a larger dose than is apparently necessary than to err in the direction of a too small dose. When ferric hydrate is given as an antidote in arsenical poisoning, no one would think of giving just enough of it to neutralize the amount of arsenic actually taken; an excess is always employed to make the assurance of antidoting doubly sure. Similarly, when it is wished to arrest the effects of rapidly multiplying bacteria, an excess of antitoxin should always be used, and, if necessary repeated in from six to eight hours.

A word now with reference to the preservation of diphtheria antitoxin. It should not be kept upon the upper shelves of the store, where there may be excessive heat or gaseous fumes. In the Philadelphia Hospital the writer used for the purpose of storage a dust-proof drawer in a part of the drug store remote from direct heat, and about equal distance between floor and ceiling. The results were entirely satisfactory.

Jacobi has said: "The principal question to be raised in reference to any modifications in cases of serious disease, is its life-saving power." Measured by this standard, there is, now, absolutely no doubt as to the life-saving power of diphtheria antitoxin, and great as has been the reduction in mortality by its use (from about 40 per cent. to 18 per cent., and this with about only 60 per cent of the diphtheria cases being treated with antitoxin) the reduction can be made still greater in the future, when its use becomes more general and the importance of early treatment becomes more generally recognized.

The manufacturers of the country have now a standard "unit of strength" which they have agreed to follow, and tests for identity and purity can be readily framed. The question arises at this point as to whether or not the time has come when official recognition should be accorded diphtheria antitoxin. Here is a remedy that has saved thousands of lives, and if safeguarded by appropriate tests in the Pharmacopœia—tests which should fix a proper standard for identity, purity and strength—may save many more lives, relatively. As the case now stands, while manufacturers recognize a "standard unit of strength," there is no general agreement as to the number of immunizing units that each cc. shall contain, nor is there any guarantee that manufacturers hereafter engaging in the making of antitoxin will accept the standard of the present manufacturers, and follow it.

A large number of states have food and drug laws, and these latter, as a rule, recognize the U. S. Pharmacopœia as the official standard in the matter of medicinal products. If antitoxin was officially recognized, its standard of strength could be controlled in these states surely, and in the others most probably. The criticism may be made that antitoxin cannot be officially recognized with tests for identity, purity and strength, because the Pharmacopœial Convention held in Washington last week directed in its general instruction to the Committee on Revision, that:

"The committee is instructed to append assay processes to as many of the potent drugs and preparations made therefrom as may be found possible, provided that the processes of assays are reasonably simple (both as to methods and apparatus required) and lead to fairly uniform results in different hands. As regards the products of such assays, tests of identity and purity should be added wherever feasible. Physiological strength should not be introduced by the committee."

A casual reading of this declaration would imply that diphtheria antitoxin is not admissable into the Pharmacopœia, because an official recognition would be valueless unless supplemented by tests for determining strength; and with antitoxin these are made physiologically. But a more careful reading of the paragraph would seem to indicate that the requirement that no physiological test for determining strength should be introduced was intended to apply only to vegetable drugs and preparations made therefrom, and that the matter of antitoxin (which has no preparations made therefrom) was not thought of. As the force of a law rests in its intent, the Committee on Revision can, the writer believes, decide that "Antitoxin" is not included in the scope of the resolutions above, and that it could be officially recognized and have tests prescribed for it.

The preparation of serum products in this country has developed into a most important industry. Not only are the domestic needs supplied, but the domestic products are shipped to all parts of the world, which indicates that they are surely winning their way in popular favor against the older French and German makes. This has been brought about by the higher concentrations of the American antitoxin and the improved methods used in its preparation.

Should not the American antitoxin be now recognized by the American or United States Pharmacopœia, and become the standard for the world to follow?

Mr. Sayre: I hope the discussion upon this paper will have a certain direction. I think it a very important one, indeed, and the paper does not appear to be intended to influence the Revision Committee direct, but designed to influence this Association, to bring the influence of the Association to bear on the Committee of Revision. I believe that in accepting this paper we should do it in a cordial manner, and in order to make this proposition effective I move that a committee be appointed to confer with the manufacturers and bacteriologists and therapeutists, with the view of ascertaining the feasibility of introducing antitoxin serum into the United States Pharmacopœia. I also move that the paper be received and take the usual course.

The motion of Mr. Sayre provoked considerable discussion, participated in by Messrs. Oldberg, Mayo, Hallberg, Eccles, Sayre and Beal, and having been seconded by Mr. Prescott, with the proviso that the committee to be appointed shall report next year, it was put to a vote and carried.

DIPHTHERIA.

By J. P. Barber, M.D., Minneapolis.

It is not the purpose of this article to attempt to present something new on a well-worn subject, but to make a plea for a more practical use of the knowledge we already possess. The very existence of diphtheria in civilized communities demands an apology. The etiology is well understood; the mode of infection nearly as well; the way of prevention is clear. Why, then, is this, and why are other similar preventable diseases so prevalent? Stupidity and cupidity of local governing bodies, ignorance of the poorer classes, and indifference of the general public, are the factors that account for the ignominious presence of these diseases, and especialy of diphtheria, for diphtheria is easier of prevention than any other of the acute infectious diseases. The kind of public spirit that builds three million dollar court houses and three hundred dollar quarantine hospitals, that allows—even forces—the use of water polluted with sewage and teeming with bacteria, that crowds children in unsanitary schools, is accountable for the existence of all preventable diseases. The medical profession stands ready and willing with the power to extinguish them whenever the public furnishes the money and a reasonable amount of intelligent coöperation. The control and practical suppression of the recent epidemic of smallpox in this city shows what can be accomplished with a very small outlay, and a very little help.

Diphtheria slays hundreds to smallpox one, yet very little is done to check it. A colored card nailed on a house is no quarantine, neither is it complete isolation of the patient. Police surveillance is necessary and detention hospitals should be established and used for those whose circumstances do not permit of complete isolation of the well from the sick. Bacteriologic examination should be made of every person's throat who has in any manner been exposed to diphtheria. Also of every child's throat on entering school and once a week thereafter. Of every throat and nose with any inflammatory or catarrhal symptoms, whether there is membrane present or not. Adults have diphtheria without membrane or with only transitory deposits much more frequently than is supposed.

The duration of the quarantine must depend entirely upon the bacteriologic findings, and these must not depend upon a single smear taken from a small part of the surface of the tonsil. The follicles of the tonsils, the sulci on the borders of the tonsils, the nose and naso-pharynx, and the discharge from the ear, if there be any, must all be examined before the patient can be safely released, no matter whether the time be three weeks or three months. One of my patients from St. Joseph's Orphanage was in quarantine seven months. Another with a chronic discharge from the ear was examined by specimen from the surface of the tonsils and released, no bacilli diphtheriæ being found. Ten days after his return to the orphanage three of his playmates came down with diphtheria. An examination of specimens from the naso-pharynx and the discharge from the ear showed the cause.

It goes without saying that the diagnosis of diphtheria cannot be determined in every case by inspection of the throat. Like all other of the infectious diseases, diphtheria varies in intensity from the severest to the slightest symptoms. The varying number and malignancy of the organisms and the difference in the natural immunity of the patients account for this fact. While the severe forms of the disease are nearly always characteristic from the beginning, the lighter ones are not. And the appearance of the latter may simulate that of any other throat infection. On the other hand, some other severe infections manifest a membrane very similar to that of severe diphtheria. A bacteriologic examination of smears taken from the throat and nose of every case of inflamed throat or swollen lymphatics of the neck is the only rational procedure.

The mortality-rate of diphtheria has decreased from 30 to 40 per cent. to 5 to 10 per cent. during the past five years, a decline of 75 to 80 per cent. This most wonderful reduction of the death-rate of diphtheria is undoubtedly the result of the general use of diphtheria-antitoxin as a specific in the treatment of this disease.

What is the nature of this agent which has saved so many lives and has so wonderfully checked the ravages of this horrible disease? Ehrlich's side chain theory seems to be the best one so far advanced to explain the nature and mode of action of this remarkable remedy. Certain cells of the body—perhaps of the blood—are composed of or contain very complex molecules. These molecules contain nuclei of atoms surrounded by numerous other atoms in very loose affinity, called "side chains." Small amounts of toxins, circulating in the blood cause a physiologic reaction, resulting in an overproduction and release of these "side chains," which have a strong affinity for the toxin and combine with it, forming an inert compound.

Practically diphtheria-antitoxin is a complete specific for diphtheria, and what is more, an absolutely harmless one. Statistics aside, and speaking from personal experience, no case, not laryngeal, of uncomplicated diphtheria will die, in which the antitoxin of good quality and sufficient dose has been injected within twenty-four hours of the onset of the disease. I have lost two cases out of two hundred, in which the larynx was not affected. One of these—my first case—was injected on the sixth day of the disease, and died four days later of uræmia; the other was a complication of scarlet fever, and died of toxæmia. I have lost four out of sixteen cases of laryngeal diphtheria. Two of these deaths were due to unavoidable accidents in the course of intubation; the other two cases occurred in the early part of my experience with antitoxin, and I believe the dosage was insufficient.

There is no maximum dose of antitoxin. 10,000 to 20,000 units may be given during the course of the disease. The unpleasant symptoms —urticaria, erythematous rash, soreness and swelling of the joints, etc.—sometimes produced by the introduction of a large quantity of horse serum into the circulation, are so trivial, in comparison with the deadly nature of the disease, that they are not to be considered. The minimum dose depends very much upon the character and circumstances of the case. It had much better be too large than too small. A feeble child will have less natural resistance than a robust one, and will consequently require a larger amount of antitoxin. It is not supposed—taking Ehrlich's theory—that the cells of a poorly nourished child, or of one enfeebled by disease of any kind, will react as promptly to the stimulation of the toxin being absorbed as would those of a well nourished, healthy one. Neither does age and weight make a great difference in the dose; but the most concentrated serum should be used in young and feeble children. The severity of the infection, as manifested by the clinical symptoms, the appearance of the throat, and the general condition of the patient, must be, to some extent, a guide as to the minimum dose. Generally speaking, it should never be less than 1,000 or 1,500 units in any case, however mild, and not less than 3,000 units in any case of laryngeal diphtheria, or in any case of a malignant type of the disease of longer standing than twenty-four hours. Double the initial dose should be injected if the local manifestation of the disease is spreading or the symptoms are increasing, or not abating, within twelve hours. In all laryngeal and malignant cases a concentrated antitoxin should be used.

The accompanying illustration shows the changes which take place in the membrane when the dose has been sufficient. In twenty-four hours the membrane has a dirty brownish color in contrast with the glistening white of the day before. The edges are on the same line as before and are somewhat loosened from the mucous membrane beneath. The flaring red area of inflammation on the borders of the membrane has considerably abated. By the third day, often, in mild cases, on the second day, the original membrane has disappeared, and in its place i thin whitish membrane appears, which remains for two or three days.

Diphtheria-antitoxin, besides being a specific for the disease itself, immunizes for a short period against the disease. Rosenthal* recently addressed a circular letter to 4,000 leading physicians in this country and Europe, inquiring regarding antitoxin. He received many reprints and direct communications bearing directly upon this question, and summarizes the concensus of opinion as follows: "Antitoxin prevents diphtheria; if given early enough and in sufficient dosage, it prevents the appearance of the disease. If the serum be given as an immunizing agent, and in doses insufficient, it will modify, that is, prevent a graver manifestation of, the malady * * * Five hundred units should be the dose, except in cases that have been exposed for a number of days or where the vitality or strength is seriously impaired, and natural immunity consequently nil. In such cases, irrespective of age, from 750 to 1,000 units is a more certain prophylactic."

Is local treatment necessary? So far as danger of death from diphtheria infection is concerned it is not. But there is danger of other infections being implanted on the inflamed soil left by the diphtheritic process. It must be remembered, also, that antitoxin does not destroy the diphtheria bacilli, and that they remain in the throat, nose, etc., for a variable period of time. That this period can be lessened by local treatment has been shown by the experience of Drs. McDaniel and Adair† at the state school at Owatonna. They sprayed or irrigated the throat and nose with a solution containing one-half of one per cent. of formalin and succeeded in freeing the patients from bacilli in from one day to four weeks. Some of these patients had been showing the presence of bacilli continuously for several months.

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*Rosenthal. The Journal of the American Medical Association, Aug. 4th, 1900.

†Wesbrook. St. Paul Med. Jour., April, 1900, page 227.

*DIPHTHERIA—DIAGNOSIS AND TREATMENT.

By C. S. Bigelow, M. D., Dodge Center, Minn.

What is now understood as true diphtheria is an acute contagious and infectious disease caused by a vegetable micro-organism.

It is a bacillus, linear and irregular in shape; non-motile and believed to be non-spore-bearing and to multiply by fission. It stains readily by Loeffler's methylene alkaline blue solution, and its cultures in blood serum on gelatine are small, rounded grayish white colonies which are characteristic.

The bacillus diphtheriae gains access to the fauces or other mucous surfaces, or abraded skin or wound, and there finding a nidus suitable for its development and propagation. A local inflammation is excited, characterized by the formation of necrotic tissue, which is fibrinous in structure, and quite firmly adherent to the underlying tissues. This bacillus is not found in the blood or internal organs, but rapidly multiplies in and about the local lesion. Its toxalbumen, however, is absorbed giving rise to constitutional symptoms, the severity of which depends upon the rapidity and the volume of its absorption and the susceptibility and the condition of the patient.

The symptoms, which can be directly traceable to the absorption of the toxalbumen of the bacillus diphtheriæ, are local inflammation of the lymphatics with anemia, organic lesions, adynamia and paralysis.

Besides true diphtheria, we frequently meet with a diphtheroidal inflammation which cannot be distinguished from it clinically, unless it runs a milder course. The bacillus diphtheriæ is always absent, but the streptococci and other bacteria are found in great abundance in and about the psudo-membrane. They are also found in the lymphatic vessels and lymph nodes, which are anatomically related to the parts involved, and in the blood and in the internal organs.

We are liable to meet with a croupous inflammation, which is not a true diphtheria, and we can have a true diphtheria in which no fibrinous exudate is apparent.

An apparently acute follicular tonsilitis may prove to be diphtheretic, followed by paralysis.

The fact is becoming more and more recognized that in a large proportion of cases there is a mixed infection. The presence of streptococci and other pyogenic germs increase the local inflammation and glandular engorgement, and the cocci gaining a wide access to the body gives rise to serious complications such as serous inflammations and abscess in various parts of the body.

It is doubtful if a normal mucous membrane, can be infected by the disease, and it is true that a lesion favors its development, and the absorption of its toxalbumen, large amounts of which have been swallowed by susceptible animals without injury.

This disease does not run a typical course. If the lymphatic vessels are not involved, there is apt to be little or no fever.

Like erysipelas, one attack does not give immunity in the future. The usual period of incubation is from two to five days, and it may extend from one to twenty days.

The predisposing causes are disease or injuries of mucous surfaces, general weakness or feeble resistance from hereditary or other causes, and the age of childhood.

The virility of the bacillus diphtheriae persists in a dry state, evidently, for an indefinite period. It is communicable by atmospheric dust by some of the lower animals, by direct deposit of diphtheritic matter, by inoculation, or through some article of food, by contact with the person or clothes of those suffering from the disease, or their attendants, or by some article in the sick room.

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*Read before the Southern Minnesota Medical Association at Winona, Aug. 2, 1900.

The bacillus diphtheriæ is killed in a moist atmosphere of 140° Fahrenheit, but in a dry atmosphere it requires 208° Fahrenheit to destroy it.

Loeffler, in his investigations, found that solutions of the following substances in the strength mentioned are germicidal to sterilized cultures: Corrosive sublimate, 1-10,000; cyanide of mercury, 1-8,000; chlorine water, 1-1,100; and thymol, 1-500, with 20 per cent of alcohol.

Prof. Gaucher, of Paris, has prevented the spread of this contagion in the hospital ward by the following means: The bed is surrounded by a metallic screen, all articles used by the patient are placed in boiling water containing one ounce of soda bicarbonate to the pint, the bedding and all clothes used are disinfected by heat, and the floors, bedstead, and walls are washed with corrosive sublimate solution, 1-1,000, the nurses and medical attendants wear blouses that are disinfected by heat each day.

Every acute case of psudo-membranous sore throat not directly traceable to scalding or to chemical action, or, in other cases in which there is a rational suspicion of the presence of the bacillus diphtheriæ, should be isolated, until a diagnosis is made, either by a bacteriological test, or by the appearance of new evidence showing the true nature of the disease.

The patient must be placed in the most favorable sanitary surroundings attainable, and local and general treatment should commence at once.

The patient and his environment should be kept from spreading the infection by the free use of antiseptic solutions and vapors.

Personal and domiciliary cleanliness must be insisted upon, and persons excluded from the sick room whose services are not required. Ample and suitable nourishment should be administered at stated intervals without overtaxing the digestive organs.

Rectal alimentation, when indicated, should consist of thoroughly peptonized milk and beef, the bulk of which ought not to exceed the limits of four ounces introduced through a soft rubber tube to the upper part of the rectum every four hours. Stimulants and other medicines may be combined with the enemata, if desired.

For local treatment, hydrogen dioxide is probably the best. I prefer to use it in a ten or fifteen volume aqueous solution with an equal quantity of Dobell's solution as a spray, or injected with a bulb or a piston syringe sufficiently often to keep the diseased surfaces clean. The local treatment is aided by the frequent administration of the tincture of chloride of iron in glycerine and water. It must not be given in milk or gum water or in a metallic spoon. Bichloride of mercury also has a very beneficial effect locally, used in dilute solution or employed internally.

The glandular swelling should be controlled by the application of cold water, or if suppuration is iminent, by ice poultices.

In laryngeal stenosis, tubage or tracheotomy should be resorted to with the constant inhalation of the vapor of lime water and sublimated calomel in a croup tent.

The antitoxin treatment should take precedence, but not supersede the medical. It should be administered as soon as possible and in sufficient concentration and volume to neutralize the toxalbumen already absorbed.

Internal medicine should be employed only as indicated, and the indications for its use will depend, in great measure, upon the amount of damage already done before an efficient dose of antitoxin has been taken into the system. Usually alcoholics should be given from the start. The judicious employment of antitoxin will often forestall the need of more active stimulants, which are less permanent in their effect.

Tincture of iron should be administered usually from the beginning to counteract and overcome anemia, and as a so-called tonic, and in albumenurea, the dose should be increased; if the urine is scanty, it should be united with other diuretics and saline or other laxatives.

Quinine is indicated in tonic doses, and strychnia as a tonic and stimulant, and its physiological effects should be maintained in paralysis.

Chlorate of potash internally and antipyretic medicines are contra-indicated.

The fever may be controlled by sponging and baths of a temperature not less than 70° Fahrenheit.

Drafts of cold air should be avoided, and, if any untoward symptoms intervene, recourse must be had to friction, heat to the extremities and stimulants.

Adynamia and complications, which are the results of weak circulation,—a dilated right ventricle, and lack of innervation such as edema of the lungs, hemorrhages due to passive congestion and effusions—should be met with the free employment of alcoholic stimulants, strychnia, carbonate of ammonia, digitalis, and other cardiac stimulants per oram or hypodermatically, and the patient kept in the recumbent posture.

In rapid heart failure with an irregular and fluttering pulse, a moderately full dose of morphia should be given hypodermatically. It is a powerful stimulant and steadies and quiets the heart.

For reflex vomiting, Dillon Brown speaks highly of one thirty-second to one-sixteenth of a drop doses of oil of absinthium given in a dram of peppermint water with two grains of soda bicarbonate every half hour to a child three years old, until relieved.

In the sequelae of this disease, when the heart's action is becoming slow, the patient must be kept in the recumbent position continually, and full doses of whiskey with strychnia and at times strophanthus, and nitroglycerine should be administered at regular intervals.

For the paralysis, the galvanic current will be found an effectual adjuvant to the strychnia treatment. A weak solution of the hydrogen dioxide should be used several times a day while the patient is in quarantine during convalescence.

Current Gleanings.

SERUM THERAPY.

There is but one logical step between the causes of the phenomenon called wound infection, with its correlative systemic manifestations, and those of systemic infection from other sources. This step is nearing its completion, especially should our eminent biologists succeed in their present investigations on the causes of malaria. The source of tuberculosis, tetanus, hydrophobia, diphtheria, variola, etc., etc., are quite established. But the question how to therapeutically counteract and prevent the invasion of these micro-organisms is one of greatest moment. No one who is well informed on this subject doubts the herculean nature of the task, nor denies the boon it may bring to humanity. It seems almost incredible that when a century ago vaccination solved the problem of how to control variola that at this date we have accomplished so little in the field of serum therapy. The diphtheria antitoxin has the lead in the renewed field, and in mentioning tetanus, hydrophobia and perhaps plague, we have given the full list of infectious diseases where we may look for good achievements with considerable hope in the near future. At present the biologists are faced with a dual aspect in their labors. This consists of the antitoxin serum on the one hand and the specific bactericidal sera on the other. The antitoxins, which, as typically observed in diphtheria, have proven more successful than the bactericides. The antitoxin sera differ in their action, as their name indicates, in that they do not act upon the infecting bacterium directly, but counteract the toxic product thereof, perhaps by uniting with the toxin, thus protecting the endangered cell, not, as already stated, by destroying the disease germ itself; while the specific bactericidal serum, on the contrary, destroys the live bacterium, but has no effect upon the toxin. The former sera which act upon the toxin already merit quite an enviable as well as chief position in the list of therapeutic sera. The latter, by large the longer list, have not been of any practical utility to date. Behring, Pasteur, Koch, Pfeiffer, Calmette, Metschnikoff, Rausom, Roux, Wassermann and others have labored incessantly in this most important of all present fields of research. It requires no special imaginative fete at all to see here the opportunity of scientific revelation in comparison of which all past scientific achievements dwindle into insignificance. Much as asepsis has done for humanity through surgery, a hundred fold more would the inauguration of effective immunizing and specific bactericidal sera do.

While the progress along this line seems slow and while those unfamiliar with the enormity of the task become suspicious and skeptical, it can be said that the hope for real success never was brighter. That which twenty years ago was in state of chaos has assumed form and system. Hypotheses have become established facts. Theories that were the objects of research and quest have become the basis of new experiments, and, in brief, if one were forced to chose between the two; whether or not the infectious diseases sooner or later would have to yield in their ravages like variola did a century ago, yes, would be the wiser choice.—Blaise in Austin Flint Medical Journal.

CLINICAL VALUE OF DYPHTHERIA ANTITOXIN.

Dr. Edwin Rosenthal of Philadelphia, Chairman of the Section on Diseases of Children, of the American Medical Association, presented some figures in his address before that Section at the Atlantic City meeting, last June that tend to strengthen the claims of diphtheria antitoxin.

The object of Dr. Rosenthal's investigations was to determine the clinical value and ethical standing of antitoxin. In order to do this he placed himself in communication both with the users and manufacturers of serum. He directed the following to 4,000 teachers and leaders in medicine in this and other countries:

Dear Doctor: Will you kindly report at the earliest possible moment, on the experience you have had in the treatment of diphtheria, with and without diphtheria antitoxin? If you can give me the number of cases of diphtheria treated by you without antitoxin, and the number of cases treated with antitoxin, with the results, it will be of especial value. Should you have no record of your cases, will you kindly advise what is your feeling toward the treatment of diphtheria with antitoxin?

If you have any items of particular interest in your experience in the treatment of diphtheria (with or without antitoxin), I shall consider it a personal favor if you will report to me in full.

It is my purpose to read a paper at the meeting of the American Medical Association, and I am asking the information from you since it will be of material assistance in securing data for my paper.

Have you any preference as to what make of antitoxin to employ?

Very truly yours,

EDWIN ROSENTHAL.

The full data from the replies is not given, but a summary shows a unanimity of evidence in favor of antitoxin.

The consensus of opinion as to antitoxin as an immunizing agent is that "antitoxin prevents diphtheria; if given early enough and in sufficient dosage, it prevents the appearance of the disease. If the serum be given as an immunizing agent, and in doses insufficient, it will modify, that is, prevent a graver manifestation of the malady.

As to the results in general practice the replies were of three kinds,—consultants, teachers or writers on the subjects; active family doctors; those connected with hospitals or other institutions in which diphtheria was treated. The replies from active practitioners show:

Total number of physicians reporting,	673
Number favorable to antitoxin, ...	622
Number expressing no opinion, ...	26
Number opposed to antitoxin, ...	5

The total number of cases reported as having been treated with antitoxin were 12,375, of which number 11,727 recovered, showing a mortality record of 5.23 per cent.

Dr. Rosenthal also wrote letters to city bureaus of health, hospitals for contagious diseases and pest houses, both in this and foreign countries. One hundred and fifty-seven cities replied, showing "number of cases previous to the serum period 183,256 with a mortality of 38.4 per cent. Number of cases since the antitoxin period 132,548 with a mortality of 14.6 per cent. The latter were not all treated with serum; in computing those cases treated with the serum alone the mortality was 9.8 per cent."

It was shown by the letters received that diphtheria antitoxin was of unquestioned "ethical" standing.

If we can attach any importance to statistics it does appear that the position of diphtheria antitoxin as a therapeutic and prophylactic agent is settled.—Mississippi Medical Record.

DIAGNOSIS AND TREATMENT OF DIPHTHERIA.

Is the title of a paper by John Blake White, M. D., of New York, and published in the Pediatrics of July.

Dr. White thinks that the time has arrived when a careful investigation into the merits of the treatment of diphtheria may be undertaken with a hope of more satisfactory conclusions. Although the disease has been under observation for many years and has received most careful study by the best men in the profession, the uncertainties in the results of treatment now practiced is not a little humiliating.

Pathologically these conditions of membranous exudation about the air passages are met with:

1. Muguet, named and defined by Gruby in 1843. This form presents itself in grayish aphthous patches in debilitated subjects with deranged digestion.

2. Croup, described by Home, of Edinburg, in 1865, and subsequently by Cheyne and Sir Charles Bell, as cynanche trachealis. This is a local, non-contagious, inflammatory affection about the glottis and is accompanied by stridulous breathing.

3. "The specific, contagious, infections, asthenic general disease, accompanied with a peculiar cacoplastic lymph—exudation, spreading a thick, tough and stratified film over tonsils, palate, uvula, larynx, pharynx and trachea with tendency to invade the bronchial tubes and nasal passages."

This last form alone is diphtheria. The others have often been mistaken for it and in consequence of the mistake not only errors in practice have been made but it has led to false statistics.

Bacterial evidence should not be solely relied upon for diagnosis; it has no significance if unassociated with the clinical picture described. What was supposed to be the characteristic germs of diphtheria have been detected in conditions of apparently perfect health.

It is feared by the author that many physicians group all diseases about the throat attended with patchy exudation under the one generic classification of diphtheria.

The indications in the treatment of diphtheria are the same as in every other condition of toxemia. Among the many remedies suggested for the treatment of diphtheria not one is entitled to superior confidence.

The claims of antitoxin are delusive, discredited in France and denounced as a fallacy by the learned bodies of Moscow. In obstruction from exudative deposit, which is a serious complication, intubation and tracheotomy are sheet-anchors. The author hesitates to resort to tracheotomy, yet with hope is in the habit of practicing intubation.

"To recount the various remedies which have from time to time been put forth for the cure of diphtheria would be as useless as it would be a vast undertaking. Every hopeful promise from the vegetable and animal kingdoms has been exploited until finally we seem now to be in the presence of the ultima Thule of resorts, and those of us who have not quite lost our reason stand aghast at the extravagant claims of a treatment as treacherous as it is grotesque in character.

"With the general acknowledgment of the protective power of vaccine—that richest gift which science has laid upon the altar of humanity—a natural and longing tendency has possessed the medical mind to search for new prophylactics in the same line of discovery. Though the profession is yet adrift from the attainment of such coveted secrets, we trust the day is not far distant when more fixed anchorages of hope in the presence of disease than we now have will be added to the domain of preventive medicine. Happy, thrice welcome will be the day when another similar gift shall be added to the garland which adorns the forehead of our God-like art!" —Mississippi Medical Record.

REMARKS ON DIPHTHERIA.

J. W. Jervey (N. Y. Med. Jour., June 2, 1900) advances many useful opinions with reference to the diagnosis and management of diphtheria. The atypical forms he classifies according to Koplik as follows: (1) There may be no local manifestations of membrane, but a slight angina with croupy cough. These cases may, however, convey a severe disease to others. (2) There are cases in which the tonsils are covered by a pultaceous exudate, but no consistent membrane is present. (3) Cases may present a punctate form of membrane, isolated and usually on the surface of the tonsils. (4) Cases which begin and run their entire course as a simple follicular tonsillitis. (5) Heubner describes cases, usually secondary, in young persons the subjects of wasting diseases, such as rickets or tuberculosis. (6) A mild chronic type of diphtheria has been observed by the author, with or without an accompanying membrane which usually appears in the nose or nasopharynx. As the diagnosis is so difficult, or even impossible, in these atypical cases, a microscopic examination is almost imperative, not so much on account of the recovery of that particular patient as affording knowledge which may prevent the spread of disease. The author states that he believes that a diphtheria infection is added to about twenty per cent of all scarlet fever cases. He also says that the diagnosis of diphtheria is frequently made for the first time when certain post-diphtheria lesions are recognized. An intimate connection between diphtheria and acute rheumatism is also suggested by the author who urges that both are specific infectious diseases, causing serious local disturbances by the formation of fibrinous exudates, and showing marked systemic toxemia. Diphtheria is most frequent in children from 1 to 15 years of age, while rheumatism is most commonly seen from 15 to 40.—Medical News.

DIPHTHERIA BACILLI IN MOUTHS OF HEALTHY PERSONS.

There is so much difference of opinion regarding the presence of diphtheria bacilli in the mouths of perfectly healthy individuals and of those attending patients sick with this disease that the work of Kober (Zeitschrift fur Hygiene und Infektions-krankheiten, 1899, Vol. XXXI, p. 433), carried on in the laboratory of Professor Flügge, should be very gratefully received. These researches were carried on upon 128 persons who had come in contact with diphtheretics and upon 600 persons who had not come in contact with those suffering from this disease.

In the cases in which the bacilli of Loeffler were found the diagnosis was based upon (1) growth on blood serum and microscopic examination at the end of six hours, (2) the double coloration of Neisser of cultures from nine to eighteen hours old, (3) testing the acidity, and (4) inoculation of guinea pigs.

The results which Kober reached showed that the ideas usually held regarding the frequency of diphtheria bacilli in the mouths of healthy individuals are much exaggerated for while the view has been generally held that the bacilli are present in the mouths of 7 per cent. of healthy individuals, Kober found them only in fifteen of his 600 cases examined, or 2.5 per cent. In ten of these fifteen cases the bacilli were not virulent. A minute inquiry showed that ten of these fifteen had recently come in contact with a focus of diphtheria, so that in reality the diphtheria bacillus is met with in the mouths of only .83 per cent of healthy persons who have not come in contact with diphtheritics. In the series of 123 cases that had come in contact with diphtheritics Kober found that in only ten, or in 8 per cent of the cases, were the bacilli to be found, although it has generally been supposed that this was so in 18.8 per cent. of all such cases. In these ten cases the bacilli were virulent.—Md. Med. Jour.

AN UNUSUAL OCCURRENCE FOLLOWING THE INJECTION OF DIPHTHERIA ANTITOXIN.

(Felix Szontagh in Archiv für Kinderheilkunde. Band xxviii., Heft 5 and 6.)

A girl, twelve years of age, was taken ill with diphtheria of the fauces, and as the case seemed to be quite severe, antitoxin was used on the second day of the child's illness. The serum, three thousand units of which were injected under the skin over the left and right lower portion of the thorax, was, according to the label, six weeks old. Within forty-eight hours the child was free from fever and the membrane showed the usual appearance of beginning recovery, although the lymph nodes of the neck, especially on the left side, had increased in size. Five days later the pharynx was free from membrane, but the child had spent a very restless night, having been in a state of excitation such as the parents had never before witnessed in her. Her temperature fell to 96.8° F. She complained of feeling chilly and her feet were extremely cold. After four days there was another slight elevation of the temperature, which was thought to be due to some trouble in the lymph nodes of the neck, which began to swell once more and became very painful. Ice was applied continuously for four days and caused disappearance of the swelling and pain, without, however, affecting the temperature, which kept up for two weeks with evening rises to 99° and 101° F. Ten days after the antitoxin injection an urticaria started from the points of injection and extended gradually over the greater portion of the patient's body. During all this time the girl became very irritable and possessed of a peculiar restlessness. The urticaria rash had disappeared in a few days, but patient complained now of excruciating pains in the lower extremities, especially in the knee joints. Her general condition became very alarming, getting worse from day to day. The pain spread over her entire body and she lay in bed motionless. The facies was that of complete prostration, the conjunctivæ and sclerotics were markedly injected, the entire neck edematous, the carotids pulsated and the pulse was tense and 120-130 per minute. The heart-sounds and cardiac dullness were normal. The slightest touch to the skin caused intense pains; the joints, especially the knee and ankle joints, were swollen, and for two days both feet were very edematous. The lower extremities were held in the position of moderate abduction and complete extension, when there was no swelling in the knee joints. When there was swelling the legs were slightly flexed, and the thighs rotated outward. When the pains were less severe the patient could be persuaded to slightly move the toes, but she was unable to lift the leg. When she attempted to do so, a severe tremor started in the distal end of the extremity, resembling very closely that of spastic spinal paralysis. Decubitus was dorsal and the child was unable to change her position. The upper extremities were less affected, and the girl was able to execute some movements. The only swelling noticed was in the interphalangeal articulations. Profuse perspirations affecting especially the lower extremities, anorexia, constipation and emaciation completed the clinical picture. The urine was always free from albumin.

Sodium salicylate, phenacetin and antipyrin controlled the pain with more or less result, as there seemed to be a tendency for the affection to remit. These remissions were followed in quick succession by exacerbations. Large doses of potassium bromid seemed best to relieve the restlessness and insomnia. At the end of a month the patient began to show signs of improvement, her strength returned, with the power to use her limbs. In another month she was able to get out of bed, and in four weeks more she was well.

Szontagh had used antitoxin in all his cases of diphtheria since the discovery of the serum and he had never seen dangerous after-effects except in one other case, strangely in a nine-year-old cousin of the patient whose history he relates. This girl, suffering from hemophilia, was taken sick with diphtheria for which antitoxin was used, and during her convalescence she also suffered from an eruption resembling measles, swelling in both knees and severe pains in the lower extremities.

This condition lasted five days and seemed to be benefitted by the administration of phenacetin.—Arc. of Pediatrics.

THE EFFECT OF REPEATED INJECTIONS OF TOXINS UPON NUTRITIVE EXCHANGES.

K. Dmitrievski obtained the following results by experimentation: (1) Pyocyanic toxin. In animals previously starved, nitrogen, urea, phosphorus and chlorine were considerably increased after the first and slightly increased after the second and third dose. The first dose caused a notable loss of weight, the second and third, a lessened diminution and for a lessened duration. In animals previously well nourished four to five doses produced a condition of immunization, the modifications in weight and in the amount of nitrogen becoming less and less marked after each injection. (2) Toxin of bacillus coli communis. The modifications in weight, nitrogen, phosphoric oxide and chlorine are about the same as in the case of pyocyanic toxin. (3) Diphtheritic toxin. In starved animals the first dose causes a loss of weight and an increase in disassimilation with hyperazoturia and hyperphosphaturia. The increase of nitrogen and phosphoric oxide is less than in the preceding experiments. Chlorine is increased. After the second and third injections, the percentage of nitrogen and phosphoric oxide is not increased so much as before, but the chlorine is augmented in amount. In well fed animals the modifications of nitrogen become less and less marked. Hyperleucocytosis was found after each injection.—Medical Record.

ANTITOXIN AND INTUBATION, WITH A REPORT OF 100 OPERATIONS.

Shurley in The Journal of the American Medical Association, Vol. xxxiv., No. 20.

From a study of the results of antitoxin treatment in laryngeal diphtheria and the benefits of intubation, the conclusions and rules of procedure are presented.

1. Aminister antitoxin early without waiting for a bacteriologic diagnosis.
2. Tonsillar exudate attended by a croupy

cough or partial aphonia is an indication for a full dose of 1,500-2,000 units of antitoxin.

3. Antitoxin administered twelve hours or more prior to operative interference will reduce the mortality of intubated cases at least 50 per cent.
4. Immunize all exposed children of croup age.
5. Continuous steam inhalations are of great value in all cases.
6. Early operation is most strongly advocated.

Number of intubations, 100; recoveries, 69; deaths, 31; mortality under three years, 49 per cent.; mortality over three years, 19 per cent.; complicating measles, 8 cases, 5 deaths. Age of patients operated on: One to two years, 16, of whom 9 recovered, 56.25 per cent.; two to three years, 23, with 11 recoveries, 47 per cent.; three to four years, 20, of whom 16 recovered, 80 per cent.; four to five years, 15, of whom 12 recovered, 80 per cent.; five to six years, 11 cases, with 10 recoveries, 90.9 per cent.; six to eight years, 10, of whom 7 recovered, 70 per cent.; eight to twelve years, 5, of whom 4 recovered, 80 per cent.; number of doses of antitoxin, 160.—Arch. of Pediatrics.

CAN THE PERIOD OF INFECTIVENESS OF DIPHTHERIA BE SHORTENED AND ITS TENDENCY TO SPREAD DIMINISHED?

The Edinburgh Medical Journal, September, 1900.

William Ewart urges thorough disinfection of the nasal cavities and nasopharynx in all cases of diphtheria, before children are allowed to return to the companionship of others. Whatever the method adopted, it should be applied early during the attack, and perseveringly and continuously during the period of convalescence. At St. George's hospital it is the author's practice to have all cases of diphtheria under his care receive local treatment for the nose and nasopharynx by the introduction of carbolized oil twice daily throughout their stay at the hospital, with a view not only to relieve local discomfort or lesions, and to prevent the spread of the latter, but also to insure, if possible, in all cases a gradual cleansing and disinfection of the entire mucous surface, by the spreading upward of the oil, which is dropped in with a camel's-hair brush, with the patients' head thrown back.—Medical Record.

A DISCUSSION ON THE TREATMENT OF DIPHTHERIA.

E. G. Wood (Southern Practitioner, Vol. XXII., No. 1) summarizes his ideas as follows:

1. Antitoxin, properly administered, has a specific effect on diphtheria.
2. Serum therapy materially shortens the duration of diphtheria and reduces the mortality at least one-half, not only in pharyngeal and nasal cases, but likewise in laryngeal diphtheria.
3. The earlier it is administered the better are the results obtained.
4. It is doubtful if it reduces the percentage of cases of paralysis unless it is given in the first two days of the attack.
5. One large initial dose is productive of better results than repeated small ones.
6. Antitoxin should be administered as soon as the clinical diagnosis is made.
7. It is practically harmless.
8. It is of no value in streptococcus sore throat.
9. The immunity conferred on healthy persons lasts about one month.—Medical Age.

EARLY INTUBATION IN LARYNGEAL DIPHTHERIA.

William E. Lower—The Cleveland Medical Gazette, January 1, 1900.

The author states that in no small per cent of the fatal cases the death is due to suffocation from laryngeal obstruction, when intubation is not practiced, or to broncho-pneumonia following late intubation.

The advantages claimed in favor of early intubation are: The child is stronger, can bear the operation better, the time for wearing the tube is lessened, there is less opportunity for the introduction of septic material into the trachea, and consequently of septic or broncho-pneumonia, which is nearly always the cause of death.

In all cases of diphtheria serum treatment should be practiced, and the earlier the better.

The indication then for intubation is the very beginning of laryngeal obstruction.—A. K. MacLean in The Laryngoscope.

DIPHTHERIA.

J. B. White, in Pediatrics for July 15th, is inclined to doubt the efficacy of antitoxin in the treatment of diphtheria and rather pins his faith to intubation and tracheotomy. He is to be congraulated on the fact that his paper contains no table of statistics and we listen to his objections to antitoxin with better grace. Statistic tables can be made to suit any side.

Most of the men who are opposed to antitoxin are those who have never used it and so their objections are derived from theory and the daily papers, either of which is not a safe guide in the practice of medicine.—Charlotte Medical Journal.

TREATMENT OF DIPHTHERIA WITH OIL OF TURPENTINE.

Dr. Wilbur C. Wright, of Unionville, Mich., contributes a note to the Post-Graduate, in which he says that he had treated thirty-seven cases of diphtheria without a death or any alarming symptoms: "To a child from ten to sixteen years old I have given teaspoonful doses of undiluted turpentine every two hours until from four to six doses have been administered, and then wait about forty-eight hours before repeating the dosage. In only five cases out of the thirty-seven have I had to repeat the medication. In nearly every case the temperature returned to normal inside of twelve hours, and remained so. In two cases the temperature went up a second time, but returned to normal when the turpentine was again given. The only reason I can suggest in explanation of the absence of any manifestation of urinary disorder following the administration of such large and frequently repeated doses of turpentine is that in diphtheria turpentine is an antidote to the toxins as well as an antiseptic."—Southern Medical Journal.

THE VOMITING OF DIPHTHERIA.

Rolleston (Ann. de med. et chir, infant., April 1, 1900) calls attention to the marked dissimilarity between vomiting in diphtheria and the same phenomenon in scarlet fever. In the latter affection vomiting ranks as a prodrome, while in diphtheria it may be termed a complication, and one of serious import, indicating cardiac implication, by reason of the distribution of the vagus nerve to both heart and stomach. Still vomiting in diphtheria may be only an episode of more or less accidental character. Thus it may appear to be due to the injection of antitoxine. We know, however, that the emetic agent is not the antitoxine proper, but some unknown principle which exists in the horse-serum by the side of the antitoxine.

Another so-called accidental type of diphtheritic vomiting occurs in connection with the diphtheritic paralysis, and is due to nothing more than the entrance of particles of food into the larynx, or perhaps of portions of membrane. This emetic action is purely mechanical in character, and owing to the paretic state of the palatal muscles the vomited matters may be expelled through the nose.

With regard to persistent, severe or malignant vomiting, it has been explained in two different ways. One theory ascribes it to uræmia, the other to participation of the heart or vagus nerve in the specific process. In cases where nephritis and convulsions occur, the uræmic theory appears highly plausible, but this association is not necessarily present.

With regard to the vagus theory, we know that irritation of this nerve may provoke simultaneous vomiting and cardiac palpitation. In many cases of dihptheria we not only find this association of symptoms pointing to implication of the vagus, but, as might be expected, we also find other symptoms which confirm the neurotic theory of diphtheritic vomiting, such as severe abdominal pain, laryngeal crises, dyspnœa, and intestinal paresis. Evidences of neuritis of the vagus have even been found histologically. Plausible, however, as the vagus hypothesis is in explaining vomiting, it cannot explain all cases, and must, therefore, be regarded as faulty. In theory, irritation of the vagus ought to slow the heart beats, yet an acceleration is usually observed. This paradox may possibly be explained by supposing that only the terminal fibres of the vagus are directly attacked.

A third hypothesis is that which sees in malignant vomiting the evidence of direct attack of the gastric mucosa by the diphtheritic process. This condition actually occurs in a small percentage of severe cases of diphtheritic vomiting. Much poisonous products of disease must be transferred from the throat to the stomach by the act of swallowing.

From the standpoint of prognosis, a very large number of these cases of pernicious vomiting result in death within the first week.

The author has had two successful cases in which the severe type of vomiting was present, but the phenomenon was of late supervention, and not contemporaneous with the formation of membrane, etc. When vomiting is a sequel of diphtheria the prognosis appears to be much better than it is during the first week or so of the disease.

As a direct remedy for the vomiting, the author only mentions morphia hypodermically, conjoined with rectal alimentation.—Medical Review of Reviews.

DIPHTHERIA OF THE CONJUNCTIVA.

Sydney Stephenson in The Lancet. No. 3990.

The mere existence of a membranous exudation on the conjunctiva is in itself no evidence of a diphtheritic process but the presence of such a product should at once suggest a bacteriological examination. The diagnosis of conjunctival diphtheria should never be made in the absence of the Klebs-Löffler bacillus.

A case in point was that of a boy of two and a half years who had diphtheria of the left eye. There was a muco-purulent discharge and the palpebral membrane was covered with an exudate. The ocular conjunctiva was free from false membrane. There was a serous discharge from the nose but no signs of diphtheria could be detected there or in the throat. The preauricular and the lymph nodes at the angle of the jaw were enlarged. There was albumin in the urine. The temperature was 98° F. and the pulse 104.

The conjunctiva was painted twice a day

with a 15 per cent. solution of permanganate of potash solution and the eyes washed with a saturated solution of boric acid. There was a sore place on the scalp covered with a grayish membrane. This was treated locally with an ammoniated mercury ointment. Antitoxin was injected. The bacteriological examination disclosed not only the Klebs-Löffler bacillus but also the staphylococcus albus and staphylococcus aureus.

There was some ulceration of the cornea that yielded to treatment. The child was discharged after a stay of twenty-two days in the hospital, during which time the temperature was almost normal, except after the injection of antitoxin. —Arc. of Ped.

A CASE OF DIPHTHERIC SORE OF THE LOWER LIP WITH SECONDARY INFECTION OF THE THROAT.

John R. Rose, Georgia Journal of Medicine and Surgery, February, 1900.

Infection was due to moistening the thumb with the lower lip while distributing mail, the lip being at the same time much chapped. Both the lesion on the lip and the secondary infection of the throat resisted treatment until antidiphtheric serum was administered. There is no reference to a bacteriological examination.—Scheppegrell in The Laryngoscope.

NAMING TWINS.

A recent baptismal narrative told at a dinner table is of a negro woman who brought forward twins.

"Their names?" bent over the preacher, in inquiry.

"Dis one is Bigamy, after his paw, and dis one is Eczema, atfer her maw."—New York Evening Sun.

TO MASK QUININE.

R Quinæ sulphat 4
Acidi citrici 10
Syr. simp. 10
Syr. aurantii flor.............10
Aq. destillat, ad...........20 c. c.

M. Sig.: Ten drops in 50 grams of water. Add 3 grams of sodium bicarbonate and drink during effervescence.—Ann. de Med. et Chir. Inf.—Ex.

DYSENTERY.

By E. H. Bayley, B. L., M. D., Lake City, Minn.

Under the subject of dysentery several forms of intestinal flux are included and the prominent symptoms are frequent stools composed of blood and mucus accompanied by tenesmus and colic. These symptoms are due to lesions in the colon and rectum. Dysentery is one of the few great epidemic diseases most prevalent and severe in the tropics. Our southern cities are occasionally visited by it, and central and northern districts see epidemics of it during the summer and early fall. It is a frequent accompaniment of armies; during the civil war is was prevalent and proved fatal in thousands of cases; in the Spanish-American war it made its appearance in our southern camps. The disease permits of the following classification: Amebic, diphtheritic and catarrhal.

Amebic dysentery is the tropical dysentery, and is characterized by amebic coli being found in the stools. Osler says: "This is seen in Europe and North America, but its home is in the tropics." The usual source of infection is drinking water. Ulcers form in the ilium and colon; the ulcers are extensive and destructive; in severe cases part of the bowel sloughs en masse. In the healing process, fibrous tissues become extensive and may produce stricture of the bowel.

Liver lesions consist of local necrosis of the parenchyma and the formation of abcesses. This form of dysentery has a sudden onset and the symptoms accompanying it are tenesmus and colic; frequent yellow gray stools mixed with blood and mucus; amebi in the stools; relapses frequent; cases often protracted and generally terminate fatally.

Treatment: In this variety of dysentery, large doses of ipicac, grains 20 to 60, are applicable, usually preceded by a dose of laudanum. The irrigation of colon by quinine, strength 1 to 1,000 or 1 to 2,000, seems to be the most beneficial of local applications.

Diphtheritic dysentery is the most fatal form, often following an attack of diphtheria in the pharynx. The lesions are situated over the ilium and colon and small, gray, white masses, a pseudo membrane, may be found upon the congested mucosae, and can be removed only by tearing the mucosae.

This pseudo membrane is composed of fibrin, necrotic cells and blood corpuscles, and is similar to that seen in a diphtheritic throat. Diphtheritic dysentery may be primary, or may occur as a secondary disease. The patient often resembles a typhoid case; temperature high; abdomen tender and distended; prostration great. This form is exceedingly fatal due to asthenia.

CHRONIC DYSENTERY.

Chronic dysentery is a sequel of the acute attack. It may last for weeks and tends to recur from year to year. The bowel shows the result of the old inflammation, the mucosae being roughened and cicatrized in many places. The attack follows a constipated condition, hard masses of scybala being covered by mucus, blood and pus; absence of bile is noticed in the passages; the tongue is glazed and beefy; flatulence is troublesome; the appetite is very changeable and food is undigested; anemia is developed and emaciation becomes extreme. I have a case of chronic dysentery which has developed into appendicitis.

CATARRHAL DYSENTERY.

The catarrhal form may occur sporadically or endemically and is the dysentery of the temperate zone. We find it usual in children under 10 years of age. The age of dentition is subject to disorders of alimentation which may give rise to dysentery. Bad hygienic surroundings, as a malarial locality, invite the disease; also changes in water and sudden changes of temperature, but the most powerful and causative factor is improper food and impure water. Under the latter two may be mentioned improperly prepared cow's milk, or infant's fod nursed from a dirty bottle; unripe vegetables; green fruits (especially grapes) and water contaminated by organic matter. The lesions in catarrhal dysentery are confined to the colon and rectum. The mucous membrane is congested and in areas; hemorrhages occur in the mucosae and submucosae and the membrane is covered with a mucus mixed with blood.

Ulcers often form, the smaller ones coalescing into ulcers ½ to 1 inch in diameter, the edges are everted and assume a rodent shape. Ulcers in different stages of development may exist in the same individual. Perforation may occur, followed by peritonitis, but this condition is rare in children; the liver may become the location of abcesses. In protracted cases, the follicles and intervening tissues become necrotic and slough away.

SYMPTOMS OF CATARRHAL DYSENTERY.

The onset may be sudden, ushered in by a chill, or it may be preceded by a few days of diarrhea. Temperature from 100 to 103 Far., pulse rapid and compressible, face pinched and anxious; tongue moist but furred in the center; vomiting rare, but, when it does occur, it is apt to be uncontrollable; abdomen soft and flat, or boat-shaped; stools frequent, 5 to 50 in 24 hours, accompanied by colic pains and tenesmus. As the disease progresses the stools contain pus, blood, mucus and necrotic tissue and are odorless. When the case goes from bad to worse, the pulse becomes more rapid and syncope threatens. The eyelids are partially closed, pupils dilate; child tosses about the bed; head retracts and paraplegia may occur. There may be a suppression of the urine, which is a bad symptom. Prolonged tenesmus often produces a prolapsed rectum.

I would like to review four severe cases:

Case 1. Girl, 5 years old, had been eating green grapes; found temperature of 106 Far.; convulsions; marked prostration; 20 to 50 dysenteric stools in 24 hours. On the 6th day paraplegia developed and death occurred on the 7th day.

Case 2. Boy, 4, sickly child, had been eating green corn; stools first loose, then became dysenteric; temperature 100 to 102 Far.; pulse weak; face pinched; head retracted; pupils dilated; vomiting uncontrollable; urine suppressed; death on the 8th day.

Case 3. Girl, 9, exposed to extreme heat and had been eating green fruit; temperature 103 Far.; convulsions; dysenteric stools; head retracted; meningeal symptoms; unconscious for one week; finally recovered; sick about 4 weeks.

Case 4. Boy, 2, no causative history; marked bloody stools; 1st and 2nd day these stools seemed to improve; no vomiting, nervous depression marked; at end of second week head became retracted, then gradually came back to normal, numerous boils appeared on head, neck and back; continued to take nourishment and stimulents to the last and finally died on the 26th day of the disease.

These are the severe cases that have come to my notice in the last 2 years. The minor cases recovered in from 2 to 10 days and responded readily to dietetic and medicinal treatment.

PROGNOSIS.

In catarrhal dysentery the prognosis is for the most part favorable and ordinary duration from four to ten days.

Favorable symptoms are diminution in number of stools, improvement in their character, lessening in amount of mucus and blood, and change of color to yellow. The disappearance of tenesmus and improvement in pulse and nervous condition.

Unfavorable symptoms are continuation of blood loss, anxious and pinched countenance, vomiting, delirium, cerebral disturbance and suppression of urine.

The treatment divides itself into prevention, rest, diet and medication.

Prevention is favored by good hygienic conditions, pure air and water, avoidance of exposure to extreme heat, cold and wet, abstinence from eating unripe fruit and green vegetables, and the correction of a simple diarrhea or constipated condition.

Rest. Patient should remain in bed; if meningeal symptoms develop the room should be kept dark and quiet.

Diet. No food for twenty-four to forty-eight hours. Give the alimentary canal a rest for as long a period as possible; boiled water to drink, a little at a time and often; plenty of water to supply liquid to the blood is essential; the first nourishment should be pearl barley water given as water, crust toast water, beef tea, preferably liquid beef peptonoids; beaten white of an egg, to which is added a little brandy; milk not before the third or fourth day, at first in small quantities combined with lime water; milk should be digested, say by Fairchild's Peptogenic Milk Powder; liquid food should be given at intervals of 2 to 3 hours; brandy acts as a food and stimulant and should be given as freely as the nervous condition of the case demands. When the case is first seen castor oil is recommended, prescription as follows:

Oil Ricini	1 oz.
Tinct. Ipecac comp	2 dr.
Sach. Alb.	2 dr.
Pulv. Acaciae	3 dr.
Aq. Menth. q. s. ad	4 oz.

Sig. 1 teaspoonful every 2 to 4 hours.

At all times this tends to relieve the irritability of the inflamed bowel and carries away the concretions of feces.

Dr. Osler recommends the use of Epsom salts, until a watery stool results.

As to specific medication to antiseptically antagonize the infection, opinions change from time to time.

First on the list is corrosive sub. 1/100 to 1/400 gr. every two to four hours, to stimulate the liver and to destroy the germs of infection. This drug has more friends than any other.

In the tropics, Ex. Ipecac 20 to 40 grains, following a dose of laudanum seems to be highly praised, but American authorities do not think it is as efficacious in temperate dysentery. I have seen cases respond speedily to the use of sulpho carbonate of zinc, giving grains 2, every two to four hours, and personally have preferred this in adults to corrosive sub.

Sodai salicylas and salol seem to be the drugs which will stimulate the liver with the least intestinal disturbance and prove beneficial after the third or fourth day.

To relieve the fearful tenesmus, the hypodermic of morphine is the remedy par excellence. Opium by mouth is not readily absorbed and at best is tardy to act and at the same time interferes with normal secretions, if given in any form by mouth, Dover's powders seem to be the best combination.

Bismuth sub-nitrate for the diarrhea, or preferably bismuth salicylas in capsules, must be given in large doses and late in the disease to produce results. Podophyllin is said to be serviceable in those cases where there is a prolapse of the rectum.

Tanic acid and sulphuric acid are useful in chronic cases.

Different combination tablets are useful to check the diarrhea and are convenient to give to children, such as:

Bismuth sub-gallate,	gr. 2
Salol,	gr. ½
Panoppsin,	gr. ½
Pulv. Ipecac,	gr. 1/20
or	
Sodas salicylas	gr. 2
Bismuth subnitratis,	gr. 2
Beta napthol	gr. 2
or	
Comp. chalk	gr. 1
Acidi tanici	gr. 1/20
Opii pulv.	gr. 1/40
Camph.	gr. 1/40
Oil cinnamon	

It is well to keep the abdomen warm.

Oil of turpentine,	oz. ½
Ol. camphoræ comp. qs. ad,	oz. 4

applied on cloth and placed over the bowels is excellent and tends to prevent peritonitis and hemorrhage.

Most authorities speak highly of large watery injections. Without doubt they are beneficial, but often difficult to give on account of the irritability of the rectum.

When hemorrhage and tenesmus are severe, a suppository of

Cocaine mur.	gr. ½
Extract ergot,	gr. 2
Ex. opi.	gr. 5
Olum thea brom	
Sat sup No. 5.	

Sig: Inject before using irrigation.

will help to relieve the irritation and also may be used to lessen irritability previous to giving a watery injection.

McMunn's tinct. of opium dr. 1 to 1 pint of warm water, in many instances has proved successful; also tincture of opium in starch water.

The injections used to cleanse the bowels are:

Cor. sub.	1 to 10,000
Sulph. car. zinc,	1 to 2,000
Quinine Sulph.	1 to 2,500
Boracic acid 25% sat. solution.	

This is especially useful in the amebic form.

In cases marked by nervous disturbance injections of mestura assafetidæ, 1 oz. to a pint of warm water, acts as a nerve sedative and disinfectant.

In chronic cases an injection of solution of nitrate of silver 2% sol. to a quart of warm water, at bed time, retained as long as possible, has proved helpful.

When meningeal symptoms develop, place ice bag to the head, stimulate freely with brandy and ammonia; apply tincture iodine from the nape of the neck down the spine.

For fever and restlessness and for weakness, sponge with alcohol and hot water.

In supplying fluid to the exhausted tissues little good in the exteme cases, is derived from the water given by the mouth or rectum. Hence Anders in his Practice strongly recommends the use of normal saline solution injected into the cellular tissues, one pint or more being used in twenty-four hours. I believe this practice is to be highly recommended, and should be used where one has excessive watery discharges, so that meningeal symptoms are being developed.

After an acute attack, great care should be exercised for a number of weeks to guard against a return. One is impressed by the great diversity in the severity of cases in different epidemics. At times you flatter yourself that the case responds nicely to treatment, then again, nothing you do seems to be of any permanent avail.

THE MEDICAL DIAL
A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.
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THE MEDICAL DIAL, MINNEAPOLIS, MINN.
MASONIC TEMPLE.

OCTOBER, 1900.

THE MEDICAL DEFENSE ASSOCIATION OF MINNESOTA.

In the past few years several vexatious malpractice suits have been before the courts of this state. As a rule the verdicts have been in favor of the defendants, and yet, in every case the annoyance, expense and loss of time involved in protecting his good name have proved a great hardship to the practitioner concerned. This is a matter which concerns all the physicians and surgeons of the country, for a malpractice suit which goes against one of our number is an injury to all.

The Medical Defense Association of Minnesota was organized at St. Paul in the beginning of September and is now incorporated under the laws of the state. Its objects are "to safeguard the professional character and to promote the professional interests of the members and to defend them when necessary in the law courts against unfounded charges of malpractice."

The new association is framed after the Medical Defense Union of England and in this connection the following extract from the Solicitor's report of that society for the year ending Dec. 31, 1899, will be of interest:

"In presenting my report upon the legal work of the Medical Defense Union for the year 1898 I drew attention to the fact that numerically it had been found necessary to refer to me, as the legal adviser of the Union, forty-two cases less in that year than were referred to me in the previous year of 1897, and this, notwithstanding the largely increased membership of the Union in the year 1898 over that of 1897.

"My deduction from this circumstance was, that it afforded a welcome and healthy indication of the wholesome respect in which the Union is now held by speculative litigants and their advisers as a consequence of the marked success which has attended the Union's defence of its members, in all actions undertaken in their behalf.

"Further, the fact, now well recognized and appreciated, that no compromise is ever allowed by the Union to be made in any action where the honor or reputation of a member is involved, has necessarily operated as a deterrent upon attacks made upon medical men at the hands of impecunious and speculative litigants, and I am well convinced that the consistent adoption of this sound principle has in no small measure contributed to the sucecss attained in the Union's good work.

"My opinion in these connections is accorded tangible support when reviewing the legal work of the Union for the year 1899.

"With an increased membership of something like 500 new members over that of the year 1898, the fact that it has been found necessary to place in my hands for legal advice and adjustment 120 cases compared with 138 cases in the year 1898, speaks for itself and must carry conviction to the minds of all members of the medical profession as to the practical utility of the Union's work in securing to its members a far less risk of being involved in litigation than is enjoyed by those members of the profession who have not availed themselves of the protection which membership of the Union affords.

"The records of the Union's work passing under the consideration of the council show, as would be expected having regard to its largely augmented membership, that the number of cases actually dealt with by the council in the past year on behalf of its members is in excess of that hitherto attained in any previous year of the Union's work; but the mere intimation from the general secretary, when conveyed to the source from which threat of action proceeds, that the Union is prepared to assume the defence of its members has, in itself, caused a very large proportion of the actions threatened entirely to collapse without any steps whatever being taken. From this it follows that the majority of the cases which it has been found necessary to place in my hands have proved more or less of a solid character."

The report then goes on to say that every case tried during the year was won by the Union.

The officers of the new corporation are:

President, Dr. James H. Dunn, Minneapolis.

First Vice President, Dr. Thomas McDavitt, St. Paul.

Second Vice President, Dr. Stuart Bates, Virginia, Minn.

Secretary and Treasurer, Dr. D. B. Pritchard, Winona.

In addition to the above the following gentlemen are on the board of directors:

Dr. Charles A. Wheaton, St. Paul.

Dr. J. W. Macdonald, Minneapolis.

Dr. W. L. Beebe, St. Paul.

We heartily commend the association to our readers and refer them to the secretary, who will forward application blanks to all who desire to become members.

THAT HORRIBLE CATACLYSM AT GALVESTON.

The great storm and destruction by ocean waves at Galveston on the 15th instant was the worst disaster by such influences occurring within the history of the United States. More than six thousand persons are known to have perished, and property estimated by hundreds of millions was destroyed within the space of a day. Galveston will be likely to feel the effects of this loss much longer than if suffered from fire, as capitalists will be slow to invest unless the government comes to the aid of the stricken city by building a sea wall sufficient to guard against a similar cataclysm.

And Texas is again, on the 21st instant, a great sufferer from a destructive rain storm in the northern portion of the state, flooding the cotton crops, the loss of which, it is estimated, will reach several millions in money valuation.

Surely the grand old state of Texas has its cup of sadness filled to the brim this year.

VACCINATION IN PORTO RICO.

The health authorities in Porto Rico seem to be alive to their duties. Eighteen months ago there were known to be 3,000 cases of smallpox on the island. In the past eight months not a single death from the disease has been reported. The board of health has a record of 800,000 persons who have been vaccinated and to this extensive use of vaccination is attributed the stamping out of the disease. Communities with more pretensions to scientific enlightenment would do well to take a leaf from the book of the Porto Ricans.

WIRELESS TELEPHONE.

At the meeting of the British Association for the Advancement of Science, held in Bradford, England, Sept. 8th, Sir William Henry Preece announced that he had found it possible to convey audible speech six to eight miles across the sea without wires. He has devised apparatus which makes it practical in commerce and it will no doubt supersede the megaphone and speaking trumpet in communicating between ships and between ships and the shore.

SPEECH.

Talk happiness. The world is sad enough.
Without your woes. No path is wholly rough.
Look for the places that are smooth and clear,
And speak of those to rest your weary ear
Of earth so hurt by one continuous strain,
Of mortal discontent and grief and pain.

Talk faith. The world is better off
Without your ignorance and wicked doubt.
If you have faith in God or man or self,
Say so; if not, push back upon the shelf
Of silence all your thoughts till faith shall come;
No one will grieve because your lips are dumb.
Talk health. The dreary, never changing tale
Of mortal maladies is worn and stale.
You cannot charm, or interest, or please
By harping on that minor chord, disease.
Say you are well, or all is well with you,
And God shall hear your words and make them true.
—Ella Wheeler Wilcox.

Reports of Societies.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The greatest body of medical men on the western continent, excepting the American Medical Association, will meet in the city of Asheville, N. C., October 9, 10 and 11, with the following programme:

I. N. Love, St. Louis, Mo., address in Medicine.

C. A. Wheaton, St. Paul, Minn., address in Surgery.

L. W. Beardsley, St. Louis, Mo., Canthoplasty in Ophthalmic Practice.

Andrew Timberman, Columbus, O., the Etiologic Relation of Eye-Strain to Epilepsy.

Otto J. Stein, Chicago, Ill., Middle Ear Disease in its Relationship to the Cranial Cavity.

George F. Keiper, Lafayette, Ind., Some Observations Gleaned from Some Recent Cases of Mastoiditis.

Alex C. Wiener, Chicago, Ill., Treatment of Tuberculosis of the Spine.

A. J. Ochsner, Chicago, Ill., Relation of Appendicitis to Gall Stones.

B. Brindley Eads, Chicago, Ill., Ventral Hernia Following Laparotomy.

George W. Crile, Cleveland, O., Technic for Removal of Tumors of the Neck.

George W. Cale, Jr., Springfield, Mo., A Case of Intermittent Hydrops of the Knee.

James B. Bullitt, Louisville, Ky., Hernia in Man and Animals.

Thomas H. Manley, New York City, Notes on Fractures Contiguous with or Involving the Articulations of the Larger Bone Shafts.

John L. Jelks, Memphis, Tenn., The Treatment of Peri-Rectal Abscesses.

Sterling B. Taylor, Columbus, O., Obstipation.

J. Rawson Pennington, Chicago, Ill., Simple Operation for Hemorrhoids; Enucleation.

A. B. Cooke, Nashville, Tenn., Revelations of the Proctoscope in Health and Disease.

H. O. Walker, Detroit, Mich., Vaginal versus Abdominal Hysterectomy.

R. S. Sutton, Pittsburg, Pa., Cancer of the Uterus and Its Treatment.

C. S. Bacon, Chicago, Ill., The Prevention and Management of Infection of the Breast During Lactation.

J. H. Taylor, Indianapolis, Ind., The Girl at Twelve.

Yeatman Wardlow, Columbus, O., Ectopic Gestation.

Emil Ries, Chicago, Ill., Pathology of Chronic Gonorrhea of Male Sexual Organs.

A. Ravogli, Cincinnati, O., The Gonococci in the Gonorrheal Secretions.

R. A. Bate, Louisville, Ky., Asthma.

T. D. Crothers, Hartford, Conn., The Curability of Inebriety by Medical Treatment.

Wm. O'Neal Mendenhall, Richmond, Ind., The Determination of Sex.

Frank P. Norbury, Jacksonville, Ill., Pulmonary Tuberculosis in Infancy and Childhood.

W. H. Bates, New York, N. Y., Further Observations on the Clinical Application of the Suprarenal Capsule.

Albert E. Sterne, Indianapolis, Ind., The Association of Diseases.

Wm. Porter, St. Louis, Mo., The Growing Necessity for Sanatoria for the Tubercular.

I. H. Goss, Athens, Ga., Erichsen's Disease: Does It Exist? Various Injuries Due to Accident.

William F. Barclay, Pittsburg, Pa., The Philosophy of the Science and Art of Medicine.

J. E. Allaben, Rockford, Ill., Treatment of Adherent Cysts of the Ovary and Broad Ligament by Incision and Drainage.

L. H. Warner, Brooklyn, N. Y., Differential Leucocytosis.

J. G. Carpenter, Stanford, Ky., Suprapubic Cystotomy for Traumatism, with Median Perineal Drainage.

THE TRI-STATE MEDICAL SOCIETY OF ALABAMA, GEORGIA AND TENNESSEE.

The Twelfth annual meeting of this society will be held in Chattanooga, Thursday, Friday and Saturday, October 11th, 12th and 13th, 1900, just following the meeting of the Mississippi Valley Association at Asheville.

Those desiring to attend should ask for tickets to the reunion of the Army of the Cumberland and the Spanish-American War Veterans. A rate of one fare for the round trip has been granted by the South-Eastern Passenger Association and the same rate will probably be granted by the other Passenger Associations which have not as yet taken the matter up.

Those desiring to read papers should send titles to the secretary, Dr. Frank Trester Smith, Chattanooga.

PARTIAL LIST OF PAPERS.

President's address, "The Relation of the Profession to the Public," R. R. Kime, Atlanta, Ga.

"The Therapeutic Effect of Iodine Demonstrated by Physiological Action and Pathological Demonstration," L. H. Warner, Brooklyn, N. Y.

"Tuberculosis in Private Practice," J. B. Murfree, Murfreesboro, Tenn.

"The Home Treatment of Tuberculosis," William Porter, St. Louis, Mo.

"Simple Inflammation of the Eye," E. H. Jones, Murfreesboro, Tenn.

"Tolerance, Suggestion and Other Odd Features in Eye Strain," Ross P. Cox, Rome, Ga.

"Relation of the Mastoid Process to the

Cranial Cavity," Geo. D. Keiper, LaFayette, Ind.

"Little Things in the Treatment of Trachoma," L. W. Beardsley, St. Louis, Mo.

"Obstipation," Thomas Charles Martin, Cleveland, O.

"Demonstration of the Rectal Valves with Observations on their Pathology," A. B. Cooke, Nashville, Tenn.

"Some Anatomic and Histologic Points in the Colon and Rectum of Interest to the Surgeon," J. Rawson Pennington, Chicago.

"Continued Malarial Fever," E. O. Williamson, Gurley, Ala.

"The Appendix—The Abdominal Death Trap," B. Brindley Eads, Chicago.

"Xeroderma Pigmentosa," J. R. Gillespie, Dayton, Tenn.

"An Epidemic of LaGrippe," R. H. Tatum, Chickamauga, Ga.

"Rheumatism and Osteo Arthritic Conditions of the Feet, Knee and Spine," Michael Hoke, Atlanta, Ga.

"The Use of Serums and Animal Extracts as Medicinal Agents," P. L. Cortelyou, Marietta, Ga.

"Delirium; Its Differential Diagnosis and Significance," Frank Parsons Norbury, Jacksonville, Ill.

R. E. Fort, Nashville, Tenn.

W. Frank Glenn, Nashville, Tenn.

"Diabetes Mellitus," R. Alexander Bate, Louisville, Ky.

"Suprapubic Cystotomy for Traumatism with Median Perineal Drainage," J. G. Carpenter, Stanford, Ky.

"Use and Abuse of Nasal Sprays," Dunbar Roy, Atlanta, Ga.

"Twenty-two Operations for Mastoiditis," J. M. Crawford, Atlanta, Ga.

"The Value of Blood Examinations in General Medicine," Claude A. Smith, Atlanta, Ga.

"A Device for the Relief of Bladder Spasm in the Treatment of Cystitis," G. H. Noble, Atlanta, Ga.

Bernard Wolff, J. G. Earnest, J. B. S. Holmes, Wm. P. Nicholson, Willis F. Westmoreland, W. S. Elkin, S. G. C. Pickney, Atlanta, Ga.

"The Etiologic Relation of Eye Strain to Epilepsy," Otto G. Stein, Chicago.

"Early Menstruation and Pregnancy," J. T. Kirkpatrick, Tunnel Hill, Ga.

"Dilatation of the Stomach," H. Berlin, Chattanooga, Tenn.

"Papilloma of the Vocal Cords; Report of Five Cases," W. L. Bullard, Columbus, Ga.

"Presentation of Case of Papilloma of the Vocal Cords," Frank Trester Smith, Chattanooga.

"Puerperal Infection," J. C. Wilson, Rockwood, Tenn.

"Old Time Remedies," Y. L. Abernathy, Hill City, Tenn.

"Report of a Unique Gynaecological Case; Its Treatment and Recovery," John E. Jelks, Memphis, Tenn.

The time for holding the meeting of the American Public Health Association at Indianapolis has been changed to October 22-26, 1900, the section on bacteriology and chemistry meeting on Monday, the 22nd, the full association opening on the following day.

During the past year, the women of Syracuse University, College of Medicine, have organized Zeta Phi. They esteem it an honor that Dr. Elizatbeth Blackwell has consented to become a charter member, she having been graduated from this college and the first woman to receive the degree of M. D. in America. The purpose of the fraternity is to bring the women of the medical profession into closer touch with one another.

Communications.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

To the Editors of The Medical Dial:

Dear Doctors: I wish to call attention to the fact that Dr. John B. Murphy has accepted a professorship in Surgery and Clinical Surgery in the Northwestern University Medical School —Chicago Medical College. Dr. Murphy has been appointed surgeon-in-chief of Mercy Hospital with the direction of the surgical teaching in that hospital. He will give two clinics each week at the hospital. The hospital now contains 260 beds with abundance of clinical material. A new amphitheatre with a seating capacity of 300 is in process of construction.

Dr. Archibald Church has been recently appointed Professor of Nervous and Mental Diseases and head of the Neurological Department.

Very truly yours,
N. S. Davis, Jr., A. M., M. D.
Secretary.

ANNOUNCEMENT.

To the Editors of the Medical Dial:

Dear Doctors: About September 25th we shall have ready "The American Illustrated Medical Dictionary," by W. A. N. Dorland, editor of "The American Pocket Medical Dictionary." This is an entirely new and unique work for students and practitioners. It contains more than twice the matter in the ordinary students' dictionary, and yet, by the use of clear, condensed type and thin paper of the finest quality, it forms an extremely handy volume only one and one-half inches thick. It is a beautiful specimen of the book-maker's art. It is bound in flexible leather, and is just the kind of a book that a man will want to keep on his desk for constant reference. It is absolutely up-to-date, containing hundreds of important new terms not to be found in any other dictionary. It is also extremely rich in the matter of tables, containing over one hundred original ones, including new tables of Stains and Staining methods, Tests, etc., etc. An important feature of the book is its handsome illustrations and colored plates drawn especially for the work, including new colored plates of Arteries, Muscles, Nerves, Veins, Bacteria, Blood, etc., etc.—twenty-four in all. This new work has been aptly termed by a competent critic, "The New Standard."

We shall also have ready in a few days the following:

NEW BOOKS.

"Modern Medicine," by Drs. J. L. Salinger and F. J. Kalteyer, of Jefferson Medical College, Philadelphia. Price, $4.00 net.

"Rhinology, Laryngology, and Otology, and their Significance in General Medicine," by Dr. E. P. Friedrich, of the University of Leipsig, and Dr. H. Holbrook Curtis, of New York. Price, $2.50 net.

"A Text-Book of Histology," by Drs. Bohm and Davidoff, of Munich, and Dr. G. Carl Huber, of Ann Arbor, Michigan. Ready in October.

"Essentials of Histology," by Dr. Louis Leroy, of Vanderbilt University. Price, $1.00 net.

"Surgical Technic for Nurses," by Emily A. M. Stoney, author of "Stoney's Nursing."

NEW EDITIONS:

"Anders' Practice of Medicine," 4th edition. Price, $5.50 net.

"McFarland's Bacteriology," 3rd edition, revised and enlarged. Price, $3.25 net.

"Hyde & Montgomery's Venereal Diseases," new enlarged edition. Price, $4.00 net.

"American Text-Book of Physiology," 2nd edition revised, in two volumes. Vol. I now ready. Price, $3.00 net per volume.

"Saunders' Pocket Formulary," 6th edition, increased in size by over 200 formulæ. Price, $2.00 net.

"Garrigues' Diseases of Women," 3rd edition. Price, $4.50 net.

"DaCosta's Surgery," 3rd greatly enlarged edition. Price, $5.00 net.

"Stengel's Pathology," 3rd edition revised. Price, $5.00 net.

During the next six months we shall issue from four to six volumes in Saunders' Medical Hand-Atlas Series.

Yours very truly,
W. B. Saunders & Co.

Devoted Husband.—Hewitt—"What are you raising whiskers for?" Jewett—"Well, I don't mind telling you that I am wearing a necktie my wife gave me."—Harper's Bazar.

A MOST REMARBABLE OPERATION IN THE SEPARATION OF THE SOUTH AMERICAN FREAKS.

In Volume 1, No. 12 (Nov., 1899), of The Medical Dial, there appeared an article copied from the Scientific American, under the caption: "Xiphopages, or Human Doubles." A bold hand was recently applied by Dr. Chapot, Prevost, a distinguished surgeon of Brazil, in the separation of the little girls, known as "Sisters Rosalina and Maria." A letter from a correspondent of the Medical Record (July 31, 1900) from Brazil, fully describes this intensely interesting operation as follows:

Sao Joao del Rei, June 7, 1900.

The medical world of Brazil was startled by the announcement that on the 30th ult., in the operating room of the hospital of St. Sebastian, in Rio de Janeiro, Dr. Chapot, Prevost, one of Brazil's most distinguished physicians, had separated the eight-year-old twins, Rosalina and Maria, who had been the subject of much medical discussion during the past year, an operation that will mark an epoch in the annals of surgery.

These twins were born of poor parents in the state of Espirito Santo, Brazil, and were brought to Rio about a year ago. They were not united by a single band as were the Siamese twins, but their abdominal cavities were connected by a large opening, practically forming one cavity, their bodies being intimately attached, as will be seen by the accompanying illustration. And as it afterward proved, the thoracic cavities were also implicated.

The following brief and incomplete account of the operation and history of the case up to the present may be of interest to the readers of the Medical Record. On June 23d of last year one of the leading Rio physicians made an exploratory opening, but finding the livers of the two girls so united as to form practically one liver he decided to go no further. Dr. Chapot then hearing of the case began a series of experiments to test the recuperative power of the liver, and the best means of controlling hemorrhage in this organ. Among others, he cut away a large part of a dog's liver, and in eight days it had almost reproduced itself. From these experiments he became convinced that this organ would bear a great deal of surgical interference, and he accepted the case.

Since last October the twins have been in this hospital under his care, and he has made a very careful study of the case from all points of view —anatomical, physiological and psychological. He had several x-ray photographs taken, and thus ascertained that the livers were united in nearly their whole extent.

While under his observation Rosalina had an attack of grippe, which lasted eight days, with a temperature on the third day of 40.2° C., with corresponding pulse and respiration, while Maria remained perfectly well. This confirmed him in his opinion that there were no psychological conditions to forbid their separation.

Having completed his studies and preparations he called a council of his colleagues who were to assist him, and explained to them his plans, and at 6 a. m. on the 30th ult. they assembled at the hospital to make the final preparations. Everything had been arranged with a view to the most perfect asepsis. The attendants, after taking a full disinfecting bath, dressed in new clothing thoroughly sterilized, and before entering the operating room washed their hands and arms in six disinfecting solutions.

Before the operation the girls were given clysters of 500 gm. of artificial serum, and their bodies thoroughly washed, first with soap and water, then with sublimate solution, and finally with sulphuric ether, after which they were wrapped in sterilized cotton covered with gauze. They were then placed upon a table especially prepared, which could be easily unjointed to make two, Rosalina lying upon her left side and Maria upon her right side, the cicatrix of the former operation showing upon the top.

The giving of the chloroform began at 9:15 a. m., and after slight resistance on the part of both they were soon under its influence, and at 9:45 the first incision was made. This extended from the naval upward, having its middle at the ensiform cartilage, being closer to the false ribs of the right side of Maria. Turning back the flap toward Rosalina's side, the anterior superior surface of the liver was seen. This occupied two-thirds of the connecting space and formed a bridge between the two cavities. Below this was discovered another connecting bridge formed by the union of the two mesenteries. After having cut through the cartilage in the median line another bridge was discovered. This was formed by the union of the two pericardial sacs, 2 cm. in extent, through which the fluid could easily be seen passing from one sac to the other owing to the uneven beating of the two hearts. The operator placed a pair of pinces de Pean upon either side of this connecting bridge preparatory to separating it. This was one of the most intensely exciting moments during the whole operation, for by the severing of the anastomosing branch of the two mammary arteries the field of operation was deluged with blood. The points were quickly seized and the hemorrhage controlled, but one of his more fearful assistants inquired, "Doctor, will you still separate them?" He simply replied, "Separo" ("I will separate"), and cut through the imprisoned tissue, and sutured the cut edges of each sac with catgut. Now, it was discovered that the pleura of Maria also extended across the line of union. However, before undertaking the task of correcting this it was thought best to attend to the mesenteric bridge, as its position made it easy for the intestines of one to pass to the cavity of the other. This was prevented by ligating it with silk at two points and cutting between them and returning the contents of each cavity to their proper place. He then returned to the remaining difficulty in the thoracic cavity. This was overcome by cutting upon the internal face of the half of the cartilage yet united, detaching the parietal pleura, and uniting it with a fine catgut suture to the median fold which adhered to the pericardial bridge.

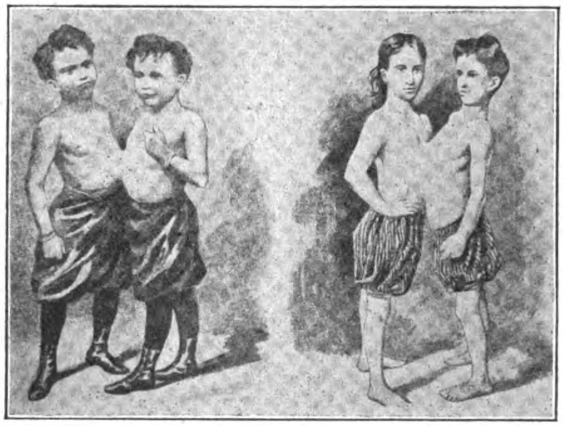

Fig. 1. The Sisters Rodica and Dodica.

Fig. 2. The Sisters Rosalina and Maria.

Having thus completed the separation of the internal parts of the thorax, he then cut through the skin and cartilage on the other side, opposite to the first incision, leaving only the liver to be separated. This he accomplished in such a way as to give to each an uninjured gall bladder and duct. The final cut having been made at 10:50, and the table separated, he turned over Rosalina to two assistants, while he continued to care for Maria, who had suffered most from the operation. However, he had to suspend his work of closing up her wound to retie a ligature that had slipped from one of the hepatic vessels of Rosalina.

The final suturing was done on two planes, the deep peritoneal and the superficial, including the skin and muscular coat. At 11:45 the operation was completed. The condition of Rosalina was encouraging; that of Maria was much less hopeful. Little by little they were awakened, and, upon opening her eyes, Maria, who awoke first, said, "Where is Rosalina." And Rosalina, upon awakening, asked the same in regard to her sister. When they saw each other and realized that they were separated and still alive Maria, looking toward Dr. Chapot, exclaimed, "Oh, doctor, how good you are!"—he had received his fee.

The children both vomited three times after the operation, and were given ice-water several times. Both during and after the operation they were given injections of artificial serum. They urinated without difficulty. After 5 o'clock they slept tranquilly with but slight interruption. At 8 o'clock Rosalina wanted to say her prayers, and put on a new dress the doctor's daughter had given her. The following is the schedule of temperature, pulse, and respiration for the first twelve hours:

	MARIA.			ROSALINA.		
	Temp.	Pulse.	Resp.	Temp.	Pulse.	Resp.
11:52 a. m.	36.0°	110	64	35.8°	Weak	45
3 p. m	36.7	126	46	36.6	110	38
5 p. m	36.6	128	44	36.6	108	42
8 p. m	37.3	126	43	36.9	112	39
12 m	36.6	130	48	37.2	124	40

On the second day both slept well, though Maria, whose temperature ran up to 38° C. at 4 a. m., was somewhat disturbed. Her pulse at this time was 160, respiration 56; but at daylight these all had gone down somewhat. At 2:30 p. m. her temperature again ran up to 38.5°. She was then given injection of artificial serum and inhalations of oxygen, after which she became better, and at 9 p. m. was quietly sleeping. Rosalina remained in good condition all day, and several times asked to sit up.

Third day: During the night they both slept well, and during the day the general condition of both improved, and they closed the day in good condition, the temperature of neither going above 38.2° At midnight Maria was given inhalations of oxygen.

Fourth day: Until 2 p. m. both girls were doing finely, when Maria's temperature ran up to 39°, with pulse 172. She became quite weak and could not take nourishment. After taking inhalations of oxygen and a small dose of digitalin she became better. Her bowels were washed out and she passed a large worm. At 9 p. m., temperature, 37.9°; respiration, 36; pulse, 150. At midnight both were sleeping, though Maria was somewhat restless.

Fifth day: The unfavorable symptoms of Maria of the day before did not return, and although very weak she was in every way better, taking with relish some broth at different times. The intestinal washings were continued with marked benefit. Oxygen was also administered throughout the day. The temperature did not get above 38.6°, and fell to 37.9°. Pulse, highest 150, lowest 137; respiration, highest 40, lowest 30.

Rosalina was in fine condition; she ate a little chicken and was anxious to sit up.

Sixth day: In the early part of the day Maria's condition was so flattering that the surgeon announced her to be out of danger. However, at 2:30 p. m., she began to vomit, and although this was checked, she became so prostrated that she could not rally under the supportive treatment given her, and at 1:30 a. m. of the following day she died.

At 3:30 p. m. the autopsy was held, at the request of Dr. Chapot, by the police physicians. He asked them to testify as to the following points, in addition to the regular facts of cause of death, etc.: (1) Had there been hemorrhage of the liver? (2) Had there been infection? (3) Was death due to lack of skill, imprudence or neglect.

The examination, made in the presence of a large number of physicians, revealed a state of inflammation of the pleura and pericardium with more or less exudate from each, but no inflammation of the peritoneum, while the liver was completely healed and cicatrized, as were all the external wounds. All present agreed that everything possible had been done that could have been done, but, of course, there were some who could find something to criticise, either in the method of operating or in the after treatment. The experts have not yet made formal report.

Rosalina continues to improve without any drawback so far.

THE NAME OF GOD IN FORTY-EIGHT LANGUAGES.

Hebrew, Elohin or Eloah; Chaldaic, Elah, Assyrian, Ellah; Syriac and Turkish, Alah; Malay, Alla; Arabic, Allah; Language of the Magi, Orsi; Old Egyptian, Tuet; Armorian, Teuti; Modern Egyptian, Tenn; Greek, Theos; Cretan, Thias; Aeolian and Doric, Llos; Latin, Deus; Low Latin, Diex; Celtic and old Gallic, Diu; French, Dieu; Spanish, Dios; Portuguese, Deos; Old German, Dist; Provencal, Diou; Low Breton, Douc; Italian, Dio; Irish, Die; Olalla tongue, Deu; German, Gott; Flemish, Goed; Dutch, Godh; English and old Saxon, God; Teutonic, Gote; Danish and Swedish, Gut; Norwegian, Gud; Slavic, Buch; Polish, Bog; Polaca, Bung; Lapp, Jubinal; Finnish, Jumala; Runic, As; Pannoman, Istu; Zemblian, Fetizo; Hindostanee, Rain; Coromandel, Brama; Tartar, Magatel; Persian, Sire; Chinese, Prussa; Japanese, Goezur; Madagascar, Zannar; Peruvian, Puchocamae.—Med. Talk.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, NOVEMBER, 1900. No. 11.

Original Articles.

THE MATTER OF SPECIALTIES IN MEDICINE.

By Franklin Staples, M.D., Winona, Minn.

The subject of specialties and specialists in medicine appears to have commanded considerable attention among the profession of late. Medical societies and medical journals have taken part in considering and presenting to the profession important facts concerning the present, at least, of specialties in medical practice; the influence of which has seemed to be for the most part in the right direction. It is believed that legitimate specialties, in their cultivation and practice, have had and are having important parts in promoting the higher progress in various departments of science and art pertaining to medicine. In making an estimate of the value of such means and aids, care is required at times to exclude certain acquired abnormalities and unnatural belongings, that, without much reason, have claimed relationship.

In this brief mention, no reference is intended to what belongs to the various sects or so-called schools, that have claimed recognition and the right of way in medical practice. The intention is rather to notice certain natural divisions, that have come to exist as legitimate parts of practical medicine and surgery; this for the general advantage.

There is a history of specialties in the art of medicine, much of which has been written. The early Greek historian, Herodotus, says of the physicians and practice of ancient Egypt, where medicine is thought to have begun: "The art of medicine is divided amongst them; each physician applies himself to one disease only: some are for the eyes, others for the head, others for the teeth, others for parts of the belly, and others for internal diseases." By this it would appear that even the separate department of internal medicine is not altogether a new one.

Concerning specialties in the medicine of the ancient Greeks, the distinguished German historian, John Hermann Baas, says: "Most physicians occupied themselves with general practice; as the science of medicine itself was still quite simple, and midwifery was not as yet separated from surgery; a separation not made until after the Middle Ages. A few only were specialists, chiefly the lithotomists, whose occupation, as is manifest from the terms of the Hippocratic oath, was generally regarded as a disreputable one: yet oculists and dentists seem to have been specialists." The substance of this account would seem to indicate that the time had not then come for the division of general medicine into departments to any considerable extent. The period of Universal Rome followed the Grecian; then the period of Arabian medicine in the Middle Ages; with decline rather than advance in all departments of science. The events of medical history in the later mediaeval and the early modern periods are notable. Surgery was divorced from medicine, and assigned to the hands of ignorant laymen. The guild of barbers took formal possession of the surgical art, and held it largely in abeyance until its revival, principally in the sixteenth century. It was then that such men as Fallopius, Vesalius, and Eustachius of Italy, Paré of France, and others of these times, laid the foundations and began the structure of modern surgery.

The German author above quoted gives his view of specialties in medicine early in the nineteenth century. After noticing in favorable terms the works of the French teachers of this time, Andral, Louis, Magendie, Trousseau and others, states the case in this wise: "A result of the French tendency to pathological anatomy, to be regarded in many respects, and especially in a practical point of view, as an unfortunate outgrowth, was the cultivation of specialties." After noticing the fact of this tendency and what he considered its results, he observes that it subsequently spread to other countries, but particularly to Germany; so that at last," he says, "there is scarcely any organ of the body which found, not its special scientific students (which is perfectly proper), but likewise its special representatives in practice." "In the latter point of view," he continues, "the question is frequently mostly one of new sign-boards, though the practice leads to one-sidedness." He says further, "Through the specialism introduced from France, the position of German physicians has been gradually undermined, and the public conception of the profession has been partially degraded to that of a trade in the art of healing." There is some difficulty in determining the value of this comment. It is the view of a learned German writer of what he regards as an unfortunate importation from France into Germany. It speaks of an unworthy commercialism in medicine, and makes it the outcome of specialism. May it not have been, in part at least, a post hoc, rather than altogether a propter hoc? From the representation, it is certainly fair to conclude, that it found in the new soil what was favorable to its growth. We may come to a later period and nearer home to find something that might be thus credited, and this with equal reason. The question has been raised as to the matter of compensation to be received by the general practitioner from the specialist for passing the patient to the latter. For such as this there can be but one worthy conclusion, viz.: that the practice of such commercialism is without exception unworthy; this alike in case of both parties. Fortunately, so far as the custom may exist, it does not necessarily or generally belong to the practice of a specialty—is a pathological condition, may be hereditary, not likely infectious, and affecting, it is hoped, the small minority only.

A few words may be said concerning what has been recently said and recorded on the subject. The American Academy of Medicine, at its meeting in June of this year, took favorable action upon a report, the substance of which is summarized as follows: "First, specialism is not only desirable, but is unavoidable. Second, It is proper for a physician to seek to perfect himself in the direction of his greatest ability. Third, A specialist, as well as a general practitioner, may have a practice directly with his patients, or indirectly through consultation." A part of a further proposition says: "Specialism, per se, does not create discord in the harmony of professional intercourse."

Professor Frederick C. Shattuck of Harvard Univeristy, in an address delivered before the Canadian Medical Association in September last, had for his subject, "Specialism in Medicine." With an account of what specialism is and what it should be, he gives in outline something of its varied history. A brief extract from the address, as it appears in the Journal of the American Medical Association, is here in place. Speaking of the principal divisions in practice, the Professor says: "A line of cleavage appeared first perhaps between medicine and surgery; and it is curious to note that nowhere has the line, at least in name, in the past been so clearly drawn as in England, where more minute specialism has met with considerable opposition." Again, speaking of the present outlook, he says: "The real line between medicine and surgery is one thing; the practical line is another. The last quarter of a century has seen them approximate notably, but they will not coincide until knowledge is perfect." He then mentions the fact as interesting, that a German journal has been established, devoted to the border-lands of medicine and surgery.

Concerning the present and future of gynecology as a specialty, the Professor is led to remark: "Gynecology is of almost unique interest from the point of view of a specialist in medicine, and a medical Gibbon could write an interesting book upon its Rise and Fall." In furtherance of the idea of the decadence of gynecology, Prof. Shattuck quotes from Prof. Howard Kelly of the Johns Hopkins University, as saying, "The general adoption of the principles of asepsis leaves the barrier between general surgery and gynecology a purely artificial one, and one which must inevitably, sooner or later, be broken down."

Finally, after discussing many of the pros and cons of specialties in medicine in the past and present, Prof. Shattuck states his conclusion in words as follows: "One fact stands out clearly—that specialism in medicine has come to stay. Its advantages infinitely outweigh its disadvantages, and we have faith that all things work for good in the long run. * * We all sometimes feel as did the late Dr. Hagen, the great entomologist—I should like to be my own great grandson."

The development of specialties in medicine, as in other departments of science and art, has come in modern times with the extension of the fields of knowledge and the means of education. A single individual cannot now constitute the whole or a greater part of a college faculty. The work in the vast field of modern natural science must be divided, that it may be accomplished, and the better results obtained. The specialist and his work should not and may not replace the person or the work of the general practitioner. The former may aid the latter both in educational and practical ways. Reciprocities are not impracticable. The family physician in the large community of the city, as well as in the broad field without, must remain. His place is in the life of the home. Our civilization and best social life have made it so, and so it shall continue.

In this observation we are considering the sphere, works, merits of physicians. Charlatans have no place. There is no unworthy conflict in the upper strata of professional life. As we ascend, our vision broadens, the air becomes clear, and the light unobstructed.

PRIZE FOR AN ESSAY.

The Mississippi Medical Record is offering to its subscribers a Clarke & Roberts, No. 80, $100 surgical table for the best original essay on any medical or surgical subject. Contest closes April 1, 1901. For particulars write to the Mississippi Medical Record, Vicksburg, Miss.

*CLINICAL USE OF DIPHTHERIA ANTITOXIN.

By Edwin Rosenthal, M. D., Philadelphia.

Of the many recent advances in medicine not one is as important to the pediatrist and the general practitioner as the clinical use of diphtheria antitoxin. It can be said that to the pediatrist belongs the honor of placing the serum where it justly belongs, and any improvement in its method of preparation, or in its use, should be investigated with more than passing interest, and the results should be known, thereby widening its field of application and increasing its life-saving power.

Diphtheria is pre-eminently a disease of childhood, the greatest frequency occurring between the ages of 2 and 10 years, and the proportionate number of cases diminishing very rapidly as the age increases. Its frequency in childhood; its constant presence in the cities of our land; the very accurate knowledge of its character in regard to its etiology, prevention and cure, which have become the common property of the layman; and above all, its being the most deadly and frequent disease that is met with by the pediatrist and the active practitioner, can be considered as prominent factors for its consideration in this address.

INVESTIGATING THE SUBJECT OF DIPHTHERIA.

Beginning my work, I found that during the year, various questions had arisen which were vital to the standing of antitoxin as a remedy in diphtheria, and to users, if they be members of this Association or suscribers to the "Code of Ethics": 1. The original discoverer of the antitoxin had obtained a patent for his product. 2. That at the Pharmacopeial Convention at Washington the question of having a certain "test" embodied in the next revision of the United States Pharmacopeia had been voted down, thereby making the remedy uncertain, and instead of offering an inducement for the further improvement of its physical character, had permitted the chance of inferior products taking the same standing as the best, thereby lowering the standard of all. This question, however, is still open, hence a factor for further investigation by myself.

COLLECTIVE INVESTIGATION BY OTHER SOCIETIES.

Antitoxin owes its present standing to the honest investigations of the pediatrist. Whilst many reports were received from numerous independent workers, and discussions were frequent in medical associations, no substantial results were obtained until collective investigations showed the truth or falseness of its specific value. The investigations are still too new, and their value is too well known, for me to repeat them, but they are sufficient to show me that such work was of the greatest importance, and in a measure gave me a method to further pursue my work.

OBJECT OF MY INVESTIGATION.

As there appears a certain reason that antitoxin should receive a thorough and complete investigation, and as this reason was not alone the clinical value of the remedy but also its ethical standing, I thought it proper to pursue my work in both directions, and not confine myself to the users of the serum, but to include its makers as well.

For the purpose of demonstrating the value of the remedy and to find out if it still retained the same virtues as at its beginning, early in January of this year I addressed the following communication to some 4,000 teachers and leaders in medicine in this and other countries:

"Dear Doctor: Will you kindly report, at the earliest possible moment, on the experience you have had in the treatment of diphtheria, with and without diphtheria antitoxin? If you can give me the number of cases of diphtheria treated by you without antitoxin, and the number of cases treated with antitoxin, with the results, it will be of especial value.

"Should you have no record of your cases, will you kindly advise what is your feeling toward the treatment of diphtheria wtih antitoxin?

"If you have any items of particular interest in your experience in the treatment of diphtheria (with or without antitoxin), I shall consider it a personal favor if you will report to me in full.

"It is my purpose to read a paper at the meeting of the American Medical Association, and I am asking the information from you since it will be of material assistance in securing data for my paper.

"Have you any preference as to what make of antitoxin to employ? Very truly yours,
"Edwin Rosenthal."

Briefly, I wished to obtain information as to the following:

1. What is the protective or immunizing value of diphtheria antitoxin; 2, what have been the results in general (private) practice with it; 3, what influence has the antitoxin exerted on the mortality records. The unanimity of evidence obtained regarding the value of antitoxin has been most remarkable. I shall not attempt to give full data from the replies, but will briefly summarize.

VALUE OF IMMUNIZATION.

I received many reprints and direct communications upon this question alone, and the consensus of opinion can be summarized thus: An-

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*Chairman's Address to the section on diseases of children, at the fifty-first annual meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. See letter from Parke, Davis & Co., from whose reply I obtained the knowledge.

titoxin prevents diphtheria; if given early enough and in sufficient dosage, it prevents the appearance of the disease. If the serum be given as an immunizing agent, and in doses insufficient, it will modify, that is, prevent a graver manifestation of, the malady. If immunization be practiced, and the dosage be insufficient, that is, the disease manifests itself, it permits the application of a remedial dose, thereby preventing a more serious type. The statistical evidences were both pertinent and numerous; fol. 253, New York Health Department was most characteristic.

A very practical point brought out was the dosage. This was somewhat larger than we were led to believe. Five hundred units should be the dose, except in cases that have been exposed for a number of days or where the vitality or strength is seriously impaired, and natural immunity consequently nil. In such cases, irrespective of age, from 750 to 1,000 units is a more certain prophylactic.

RESULTS IN GENERAL PRACTICE.

I was deeply impressed in receiving letters from physicians who have passed through serious epidemics of diphtheria, and know from practical personal experience the changes brought about since the advent of antitoxin. I may add that some of my correspondents have given information regarding other plans of treatment with results, and that if a complete compilation were made, the general result would be so conspicuously in the favor of the antitoxin that its simple repetition would suffice. My replies were of three kinds: One set I should class as consultants, teachers or writers on this subject; the second set were from active family doctors, and the third were from those connected with hospitals or other institutions in which diphtheria was treated. As the first and last class could not in truth answer the question as above, I gleaned from the mass, only those whom I deemed answered my purpose, to wit, the active practitioners, and present the result as follows:

Total number of physicians reporting	673
Number favorable to antitoxin	622
Number expressing no opinion	26
Number opposed to antitoxin	5

ANTITOXIN CASES.

Total number of cases of diphtheria reported	12,375
Recoveries	11,727
Percentage of mortality, 5.23.	
Number of cases reported without specifying serum	5,191
Recoveries	4,897
Percentage of mortality, 5.28.	
Number of cases reported with serum prepared by Parke, Davis & Co.	753
Recoveries	699
Percentage of mortality, 7.15.	
Number of cases reported with serum prepared by Mulford & Co.	6,325
Recoveries	6,065
Percentage of mortality, 4.11.	
Number of cases reported with serum prepared by Behring, Aronson, Roux, and various boards of health	106
Recoveries	96
Percentage of mortality, 9.5.	

These results, as just given, are, perhaps, a repetition of what is now so universally known. This, however, teaches us that the antitoxin still retains its position, and that the results now are not different from what they were at the beginning. I might add that some of my replies were simply a sentence placed at the end of my letter of inquiry, short and to the point. An example of many is as follows: "No question for further debate; its position is settled."

THE INFLUENCE ON THE MORTALITY RECORDS.

To obtain accurate information upon this point, I called to my aid every health officer in American cities having an organized bureau of health as well as hospitals for contagious diseases and pest-houses. I also wrote to foreign countries, and to such institutions or individuals as I had learned of in my readings or otherwise. The following letter was sent to each:

"Dear Doctor: Will you kindly furnish me with the number of cases of diphtheria and the mortality of the disease from 1885 till 1899, inclusive? If you do not have the statistics for each year, kindly furnish the years for which statistics are available. Should you have no record of the cases, will you kindly advise, from your experience, what value you consider antitoxin possesses?

"If you have any items of particular interest in your experience in the treatment of diphtheria (with or without antitoxin), I shall consider it a personal favor if you will report to me in full.

"Have you any preference as to what form of antitoxin to employ?,

"My object in writing you is to secure positive and accurate information upon the treatment of diphtheria, with and without antitoxin, as it is my purpose to read a paper before the coming meeting of the American Medical Association. Your data will be of great benefit to me if you will kindly furnish them. Very truly yours, Edwin Rosenthal."

One hundred and fifty-seven cities replied. A summary reveals the following figures:

Number of cases previous to the serum period	183,256
With a mortality of 38.4 per cent.	
Number of cases since the antitoxin period	132,548
With a mortality of 14.6 per cent.	

The latter were not all treated with serum; in computing those cases treated with the serum alone the mortality was 9.8 per cent. A characteristic reply, I append:

Year.	Without Serum.		With Serum.		Total.
	Cured.	Died.	Cured.	Died.	
1888 ..	22	9	..	..	31
1889 ..	20	18	..	..	38
1890 ..	14	17	..	..	31
1891 ..	20	11	..	..	31
1892 ..	18	14	..	..	32
1893 ..	20	17	..	..	37
1894 ..	20	10	3	2	35
1895 ..	..	2	87	17	106
1896 ..	..	..	54	15	69
1897 ..	..	1	48	3	52
1898 ..	1	..	52	4	57
Total .	135	99	244	41	519

It comes from Basel, and was sent me by Professor E. Hagenbach-Burckhardt, and was translated by himself, and is so clear and concise that it is self-explanatory.

Others were quite as complete, and were instructive to us, as showing how quickly such statistics could be obtained, and how the foreigners assist the authorities by keeping accurate records. France, Italy, Germany and Hungary were the most accurate, and I may especially mention the work of Egidi in Rome, Trumpp in Munich, and Bokay in Budapest as among the most prominent factors in the statistical study of diphtheria abroad. Another very pertinent and withal useful fact I obtained from my foreign correspondents and that was that the unfavorable "serum" symptoms first noted in the use of the remedy, such as joint pains or swellings and urticarial rashes were not so frequently seen, and that latterly they were disappearing, so that an utter absence of all unfavorable manifestations of the remedy was to be expected in the future.

Of the method of using the antitoxin, the summary shows the following as the latest conclusions: When called in the early stages of the disease, and the symptoms are favorable, never administer less than 1,500 units. Where, however, the "laryngeal" form threatened, it is never advisable to employ less than 2,000 units. Should the type of the disease be severe, 2,000 units should be the minimum commencing dose, and if of the laryngeal form, 3,000 units should be the commencing dose. In every instance where favorable action does not manifest itself in 6 to 10 hours, a second injection should be made of double the number of units of the primary injection.

To what quantity can the antitoxin be used? Dr. Rosa Engelmann, in her reply, adds: "Would say, further, that I now use much larger initial and subsequent curative doses. I recently used 20,000 units in 7 days in one case." I was pleased to learn from this that others used large doses besides myself.

THE ETHICAL STANDING OF THE ANTITOXIN.

As the question of the antitoxin being patented by one of the originators has been the subject of journalistic discussion, much to the ethical standing of the remedy, I was prompted to investigate this point by writing to the most prominent manufacturers in this country, briefly stating my desire to have the question of "Ethics" brought prominently before this Section, prefacing my letter by my reasons for writing, and adding that, we, who belong to the American Medical Association and subscribe to the "Code of Ethics," could not in honor use any drug that carried with it the taint of fraud. The following letter was sent to each:

"Gentlemen: In my address before the Section on Diseases of Children of the American Medical Association, I wish to place antitoxin upon the same footing as any other well-known remedy, and by this address I wish to have the indorsement of my Section, so that it should be placed in the United States Pharmacopeia.

"For the purpose of showing its value from the standpoint of the physician, I have written, and have received replies from almost every well-known user of the remedy, in this and other countries. Through these I wish to show:

"1. Its influence as a specific in diphtheria.

"2. Its influence on the mortality records.

"3. Its influence as an immunizing agent.

"Now, since a question has arisen regarding a 'patent' and as it is essential for any one connected with the American Medical Association, or who subscribes to the 'Code of Ethics,' to reject any remedy whose name can be questioned, I wish to have the opinion of the manufacturers regarding the ethical standing of this drug. Will you, therefore, as a manufacturer, reply to the following questions, and in doing so, in such a manner that will be concise, and in such shape that I can append your reply to my thesis:

"1. Have you any copyright, patent, or secret in the name 'diphtheria antitoxin?'

"2. Do you place any secret on the method of its preparation?

"3. Commercially, you place it, as any well-known alkaloid—quinin or the like—the value of the remedy depending upon the reputation of the manufacturer, and sell it only through the ethical markets of the world."

I received a most satisfactory reply from each, and I can do no better than read here the replies. The first was from H. K. Mulford Company, and is as follows:

"Dr. Edwin Rosenthal, Chairman, Etc.—Dear Doctor: In reply to your communication of the 22d inst. we advise that our methods for the preparation of antitoxin are, at all times, open to members of the medical profession. As a matter of fact, we cordially invite physicians and health authorities to visit our laboratories and thoroughly acquaint themselves with the methods by which diphtheria antitoxin and our various products are prepared.

"We do not, nor have we ever attempted to secure a copyright, patent or trade-mark for diphtheria antitoxin; there is no secret in its method of manufacture or preparation, which is upon a higher plane even than the manufacture of chemical and pharmaceutical products, because we prove by our standard of testing, the exact number of antitoxin units—immunizing or protective value—that each c.c. of serum contains.

"Antitoxin is supplied to physicians and druggists, and we introduced the custom of protecting the product by allowing physicians and druggists to exchange for a fresh supply any lot of antitoxin not used within the time specified on each label. In addition to this we have established the system of absolute standardization of strength, giving the number of units to each c.c. of serum, as well as the aggregate-number of units contained in each package.

"In this connection we desire to extend to you personally, and to the members of your Section, as well as to the members of the American Medical Association, a most cordial invitation to visit our laboratories and acquaint yourselves with the methods of preparation, not only of antitoxin, but also of vaccin and our pharmaceutical products.

"You are entitled to special thanks, not only by the members of your Section and the American Medical Association, but by all physicians, for the efforts you are making to secure absolutely reliable reports concerning the value of diphtheria antitoxin and its influence upon the mortality rate.

"Very truly yours,

"H. K. Mulford Company.

"H. K. Mulford, Vice-President."

The second letter was from the firm of Parke, Davis and Company, of Detroit, and is as follows:

"Dr. Edwin Rosenthal, Chairman, Etc.—Dear Sir: We have the honor to acknowledge receipt of your favor of the 22d inst., raising certain questions with regard to the ethical character of antidiphtheritic serum, and it gives us much pleasure to return an unequivocal answer to each of your inquiries.

"1. We have no copyright, patent, nor secret protection in conjunction with the name 'diphtheria antitoxin.' From the time when we began producing and marketing the serum our product has been entitled Anti-Diphtheritic Serum. This is a scientific and descriptive appellation, strictly in harmony with the rules of rational nomenclature, and any producer of diphtheria antitoxin is free to use it.

"2. We have no secrets in our methods of producing and testing antitoxin. We have repeatedly published the details of our work, and they are, moreover, open to the personal inspection of any reputable pharmacist or physician.

"3. To your third question we unhesitatingly reply in the affirmative. We market our antidiphtheritic serum precisely as we exploit quinin or any other of the well-known alkaloids.

"The only protection of any kind or character which we enjoy—and even this is in no sense proprietary—accrues to us from the presence of our name on the labels of the vials which emanate from our laboratory.

"We sympathize warmly with your wish to have antitoxin placed upon the same footing as any other well-known remedy, and, without caring who knows it, we affirm that in our judgment the recent Pharmacopeial Convention at Washington made a mistake when it voted down the proposition to have a test for antidiphtheritic serum embodied in the next revision of the United States Pharmacopeia. We yet hope that the license and latitude accorded the revision committee of twenty-five, who are the real authors of the pharamacopeia, will prompt them to adopt and publish an official test for diphtheria antitoxin. We need hardly explain to you that such action on the part of the revision committee is of no selfish or commercial interest whatsoever to the manufacturing houses. From the sordid and commercial view-point the manufacturer of antitoxin need not care a fig whether the serum is adopted by or excluded from the Pharmacopeia. But every honorable house which aspires to be something more than a huckster of medicinal products exhibits at least some concern for the interests of medicine, science and humanity, and it is this consideration which pleads powerfully for such a test in the Pharmacopeia as shall define with precision the meaning of the word 'unit,' and as shall tend to shield profession and public from the disaster of an inferior or impotent serum.

"Pray command us freely if we can give you any further information, and believe us, Very sincerely yours, Parke, Davis & Co."

From the latter letter you can well understand the value of the thorough safeguards that should be thrown around the remedy, and how necessary it is that its remedial character should be above reproach. Receiving this information you can well understand why I undertook the task just closed, the reasons and the results I wish for.

The history of antitoxin is inseparably connected with pediatrics. To the fearless and scientific labors of the pioneers were due the first tests undertaken, and through the collective investigations of the associations was the true position assured. Surely, it still belongs to the pediatrist to see that no injustice be done either to the drug, or its makers; and the question of its admission with all the tests necessary, to the pharmacopeias of the world should enlist the support of all.

REASONS FOR THIS COLLECTIVE INVESTIGATION AND ITS OBJECT.

That there still exist physicians whose knowledge of the progress of medicine is in abeyance, and whose position in our midst is a factor of much harm, makes the question of placing antitoxin on our list of remedies—like quinin or the various alkaloids—a very pertinent one. It is not necessary for the progressive, honest and ever-seeking doctor to be told the virtues of any new drug; for he is always on the lookout for all that aids him. But for the slow, undecided and unbelieving one, it is a very essential thing to place good remedies within his reach. The practitioner whose only progress is the United States Pharmacopeia should be assisted in his search for knowledge; and with this in view, our help can not be otherwise than in the right.

THE BRITISH CONGRESS ON TUBERCULOSIS.

It is announced in the British Medical Journal that a Congress on Tuberculosis will be held in London during the last week of April, under the presidency of the Prince of Wales. Among the vice-presidents are the Duke of Fife, the Marquis of Dufferin, Earl Spencer, Lord James of Hereford, Lord George Hamilton, Lord Reay, Lord Lister, Sir John Burdon Sanderson, Sir Hermann Weber, the presidents of the Royal Colleges of Physicians and Surgeons, the president of the Royal College of Veterinary Surgeons, the director-general of the Medical department of the Navy, and the chairman of the London County Council. The president of the organizing committee is the Earl of Derby; the chairman, Sir William Broadbent; the honerary treasurers, Lord Avebury and Sir James Blyth; the chairman of the general purposes committee, Professor Clifford Allbutt; and the honorary secretary general, Mr. Malcolm Morris. The Prince of Wales has consented to open the congress in person. In order to make the congress as comprehensive as possible, every colony and dependency in the empire will be asked to send representatives, and distinguished guests will be invited from Europe, Asia, and America. Authorities in these and other countries will be invited to take an active part in the work of the congress. It is hoped that the congress will be able to adopt practical resolutions which will serve to indicate the measures best adapted for the suppression of tuberculosis. The work of the congress will be divided into sections as follows: Section 1 (state and municipal): president, Right Hon. Sir Herbert Maxwell; secretaries, Dr. Bulstrode, Dr. Arthur Newsholme, Dr. James Niven. Section 2 (pathological, including bacteriology): president, Professor Sims Woodhead; secretaries, Dr. Wethered, Prof. Rubert Boyce, Dr. E. J. McWeeney. Section 3 (tuberculosis in animals): president, Sir George Brown; secretaries, Professor Hobday, Royal Veterinary College; Messrs. Harold Sessions, Stuart Stockman (Glasgow), Frank Leigh (Bristol). Section 4 (clinical and therapeutical, including climatology and sanatoria): president, Sir R. Douglas Powell; secretaries, Sir Hugh Beevor, Dr. Hector Mackenzie, Dr. R. W. Philip, Dr. William Calwell (Belfast).—Medical Record.

THE NEW YORK STATE HOSPITAL FOR CONSUMPTIVES.

The commission appointed to select a site for the New York State Hospital for Consumptives has examined twenty-six different places, and has finally selected one on Lake Clear, about two miles south of Upper Saint Regis Lake in the Adirondacks. The site, which includes a tract of about five hundred acres, is readily accessible by rail from all parts of the state. The site has been objected to because of the comparatively large rainfall in this region, but the soil is sandy and quickly absorbs moisture, and experience has shown that the climate is a favorable one for the treatment of tuberculosis, for it is practically the same as that of the entire Adirondack lake region. Saranac Inn is only some three miles southwest of Lake Clear. The purchase price of the tract is about $8,000. It is not yet certain that the land will be acquired, as it is said the law forbids the securing of any land in that region by the state except for forestry preserves.

DEATHS FROM LIGHTNING.

Statistics collected with much accuracy and care by the Weather Bureau at Washington, acquaint us with the rather startling information that during the year 1899, there were killed by lightning in the United States five hundred and sixty-two persons, and that eight hundred and twenty others were more or less severely injured. The mortality from this source is much larger than the average person would suppose. There is a popular belief that persons are seldom or never struck by lightning in the open. Yet of the deaths enumerated above, 45 per cent occurred away from shelter. Thirty-four per cent were killed in houses, while beneath trees only 11 per cent. Thus is another myth of our childhood days destroyed. The most dangerous locality in a thundrstorm is in the vicinity of a wire fence. Quite a numuber of deaths occurred in persons who subjected themselves to this danger, and in persons who were in the act of removing clothes from wire clotheslines. The safest place in the house is in the center of the room. Open doorways and open windows should be avoided, as well as the neighborhood of chimneys. It is well to avoid the shelter of trees, and the proximity of live stock. On many of the persons killed the lightning left no mark. In some cases there were burns, either upon the body or clothing, or both. In some instances the clothing was burned while the person escaped serious injury. The vagaries and eccentricities thus displayed by the lightning stroke are hard to account for.—The Chicago Clinic.

THE MEDICAL DIAL
A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.
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Annual Subscription, in advance, domestic,	$1.00
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MASONIC TEMPLE.

NOVEMBER, 1900.

THE GREATEST OF ALL MEDICAL PROBLEMS.

We invite the careful attention of our readers to the concise and common sense report of the committee of the American Medical Association on the question of tuberculosis (Jour. Am. Med. Assn. Oct. 20th, 1900,). At the Columbus meeting, June 6-9, 1899, a committee of five, with power to add to their number was appointed by the president, who should prepare a report on the following points in relation to tuberculosis: 1, its nature; 2, its communicability; 3, its prevention; 4, the control of the spread of the disease and the education of the people so as to lessen their chances of infection, and their prospect of recovery when infected; and 5, on the advisibility of national and state sanatoria.

It was also resolved at the Columbus meeting that the committee should present its report to the congress of the United States and to the legislatures of the union and urge upon them that appropriate measures be speedily taken.

In dealing with the first subdivision of their report the committee states that the mortality of tuberculosis cannot be accurately determined, from the fact that many cases are undiagnosed and many are suppressed. In the town population of the United States it probably amounts to not far from 14 per cent of all deaths and it is easily demonstrated that the pulmonary form reaches 9 to 11 per cent of all deaths. In country districts the mortality from all forms of tuberculosis is possibly not over 12 per cent. It is the most destructive disease in existence for it carries off thirty times as many as small pox and scarlet fever together, and four and a half times as many as these two diseases with typhoid fever and diphtheria combined.

As to the morbidity of tuberculosis, pathologists have been telling us that the results of post mortem examinations show that 40 to 75 per cent of all people are afflicted with it in some portion of their bodies some time in their lives. The committee considers that 50 per cent would be a fairer figure.

On the communicability of tuberculosis attention is particularly directed to the personal susceptibility of the individual, which varies in different bodies, and in the same body from time to time. Ill health increases the susceptibility, so also do unhygienic conditions of life, starvation, overwork and hereditary predisposition. On the other hand bodily vigor, outdoor life, good hygienics and perfect physiological functions are the strongest safeguards that can be thrown around the individual. Considering the prevalence of the tubecle bacilli in the air of cities and towns it is remarkable that so many persons escape infection. Only those with a power of resistance that is too low either to destroy the germs or render them innocuous fall victims to tuberculosis. The microbes taken into the mouth and throat are mostly swallowed, and, if not destroyed by the acids of the stomach, pass into the intestines, sometimes to set up tuberculosis there.

On the question of the prevention of tuberculosis the committee takes what we consider a wise course. The practice of keeping consumptives ignorant of their condition when they are expectorating billions of bacilli every day is condemned as a crime against the community." They are usually less shocked by the truth than their friends are, and knowing it, they are more ready to join in measures for their own good and for the protection of others." Complete suppression of the disease the committee considers too much to hope for and success is more likely to be achieved by not enforcing measures so radical that they would at once antagonize the public and thus lead to a sweeping repeal of existing laws. The gradual education of the people is an essential preliminary, and this cannot be done in a day.

The first step in the suppression of the disease is to reduce the number of bacilli in the air one breathes. The following practical measures are recommended: (a) destruction as far as possible of all tuberculous sputum, either by fire or by chemical agents in sputum receptacles; (b) careful disinfection of contaminated clothing, utensils and rooms—clothing and utensils by heat either dry or moist, and rooms by formalin: (c) careful management of the patient in his person, and especially as to his expectoration: (d) the segregation of infected persons, in whom the disease is active, under the care of nurses competent to prevent them from contaminating the atmosphere.

Expert nursing of the tuberculous is thus spoken of in the report: "The world was slow to learn that the sick with acute diseases deserve to be nursed by expert hands; that the trained nurse, moved by professional ambition and pride of success, makes for comfort and recovery to a patient, better than the casual care of unskilled strangers, or the agitated excess of inefficient friends. We are only just learning that people in the slow clutch of the most mortal of all maladies deserve a similar expert skill in their care, and to have it continued without interruption through the months and years if need be. The victim of a familar, creeping death that is avoidable, is as much entitled to consideration as if he had the swift plague. Our virtue is apt to be spasmodic; we rouse ourselves for the relief of imminent disaster. It is a soberer and wiser virtue that creates and sustains measures to repress an insidious calamity."

The great and urgent question of the prevention of tuberculosis is before the nations. In no direction can physicians do better service than in educating the people as to the nature of the disease and the means of suppressing it. Legislation will follow. Sanatoria for rich and for poor will be established until the demand is met, and the time will come when this dread enemy of mankind will be confined within narrow limits, or possibly stamped out of existence.

In times past we have heard so many dark forebodings from the pessimists who have expressed their fears that the world's fuel supply would vanish before many years shall have passed. But now comes the statement that Baron Von Richthofen's explorations in China have disclosed a single anthracite coal field in one of the provinces of that empire which contains sufficient material to supply the coal demand of the entire world at the present rate of consumption for over 2,000 years.

For quite a number of years the electro-magnet has been used in medcal centers for the removal of steel particles imbedded in the eye where is was inadvisable to probe for them. The Medical Times says that a powerful electro-magnet has recently been installed at the Manhattan Eye and Ear Hospital. It will hold up 250 pounds, and will attract and seize a bunch of keys thrown in front of it. The first test was made on a man into whose eye a sliver of steel had cut, passing through into the vitreous fluid in the posterior chamber, where no surgical instrument could reach it without destroying the eye. The patient, strapped to an operating table, was moved gradually toward the magnet, which finally drew out the steel througlh the opening it had made when entering the eye. As is left the eye the steel sliver flew like a flash to the magnet and clung there, while the eye sank back to its natural position.

PAINLESS COAPTATION OF SMALL CUTS OR LACERATIONS.

Frequently a doctor is called to care for a cut or superficial laceration. In such cases the wound can be closed nicely and without pain; much to the gratification of a sensitive person. It is only necessary to prepare two pieces of adhesive plaster, by fastening threads at intervals along one edge of each piece. Then after the cut has been cleaned and the surrounding skin dried, the adhesive plaster is warmed and applied on either side of the laceratioon. The wound may then be dressed according to habit, a narrow strip of gauze applied, and the strings tied across the cut. Care must be taken to exclude the gauze from the wound.

A. N. Bessesen, M.D.

ANESTHESIA BY THE INJECTION OF EUCAIN B INTO THE SPINAL CORD.

Dr. W. W. Keen, the Philadelphia surgeon connected with Jefferson Medical College has introduced a novelty into this county, in the way of an anesthetic. His vehicle is eucain B, introduced into the lumbar spinal canal, below the terminus of the cord. This method is not original with Dr. Keen, but to him must be accredited the introduction of it into America.

Dr. Keen, who has just returned from an extensive trip abroad, determined to try the experiment of Dr. Tuffler of Paris who reports that he has operated successfully in 160 cases, through spinal anesthesia, by means of cocaine. In all of the cases seen by Dr. Keen, the French operator had experimented with a 2 per cent solution of cocaine, which he had injected into the spinal column, producing a complete sensory anesthesia in all structures supplied by the nerves given off at and below the point of puncture. The motor functions are not by this method interfered with. On the afternoon of October 3rd, in the presence of 700 physicians and students Dr. Keen made his experiment in Jefferson Hospital. In his explanatory talk he outlined the new departure and gave as his reason for using eucaine B, rather than cocaine, that the former could be thoroughly sterilized without interfering with its efficiency, while the latter was decomposed by boiling.

The patient was one with an ideal malady for the application of lumbar anesthesia of this kind. An old negro, suffering with an immense inguineal hernia, into the sac of which fully one-half the bowels had escaped. The patient was weak and also suffered from albuminuria. The use of the usual anesthetics was out of the question, on account of the patient's condition, as well as the danger that might arise by the suddenly produced pressure on the heart and lungs by replacing the organs that had been out of their proper cavities for years. By the use of eucaine it was reasoned that any excessive pressure symptoms in the upper thorax might be revealed by the patient.

A puncture was made by Dr. Keen between the 3rd and 4th lumbar vertebrae. At this point of the spinal canal the aspirating needle comes in contact with the unmedulated nerves of the cauda equina after penetrating the dura mater. A few drops of the native fluid being evacuated, one cubic centimeter of sterile eucain B was injected. In five minutes areas of numbness the size of the hand, were reported by the patient, over the abdomen and legs; in eight minutes anesthesia was complete from the region of the umbilicus downwards. The operation (which is considered among the major ones) was begun and carried to a finish, lasting a few minutes less than an hour, the patient experiencing not the slightest discomfiture. In fact he talked continuously with the attendants telling them that he felt nothing and often joking with them.

The temperature and pulse were recorded every five minutes through the duration of the anesthesia, which lasted for an hour and a half: the pulse, which showed some depression, was stimulated. The temperature was little affected. As the anesthesia disappeared, symptoms of nausea and vomiting presented themselves to a slight extent. Throughout the anesthesia the patient had motor control of the area void of sensation.

The operation was successful in every particular, and is heralded with enthusiasm and delight by the profession in the east. The Philadelphia "North American" of the following day says in an article with regard to the innovation: "Dr. Hearn said last night that no surgeon in this countrty had ever before attempted the operation with the use of hypodermic injections into the spinal column, and that the result would be watched with great interest by the profession. Should eucain, administered into the spinal column, prove safe and certain in the operation, surgeons are prepared to hail its discovery as greater than that of chloroform. Its action is downward from the point injected, so that an operation upon the foot would be injected in the lower spine."

Edward A. Rich, Ph.B.
Philadelphia, Oct. 4th.

According to the Journal of the American Medical Association, the city of Sassari, on the island of Sardinia, has been completely freed from mosquitoes. A chart was made showing every discoverable breeding place for mosquitoes and these were all treated twice a month with coal oil. It is said that the entire cost for a city of 50,000 inhabitants should be about $250, or $5 per 1,000. Cheap enough.—Texas Medical Journal.

PAN-AMERICAN EXPOSITION.

Buffalo, N. Y., U. S. A., May 1 to Nov. 1, 1901. Hon. W. I. Buchanan, Director-General. Edwin Fleming, Secretary.

This exposition will surpass all former enterprises in six important features: (1) In elaborate and beautiful electric lighting effects, using over 200,000 lamps; (2) in the splendor of its hydraulic and fountain effects, a stately canal over a mile long encircling the buildings and all courts having water features of unparalleled beauty; (3) in exquisite horticultural and floral embellishments, a wall of foliage surrounding the exposition, rare plants and brilliant flowers adorning the grounds; (4) in original statuary and plastic ornamentation—more than 125 large groups of American sculpture; (5) in the richness of its color decorations, all buildings to be tinted in beautiful and harmonious shades; (6) in the magnificence of its court settings, the court area being much larger than at any former exposition, producing vistas of exceptional grandeur. Cost of preparing exposition, buildings and grounds, including Midway, about $10,000,000. Purposes.—To celebrate achievements of the western hemisphere during 100 years; to promote trade among Pan-American countries; to present a great object lesson showing progress of the western world to date. All the leading Pan-American countries will participate. Site.—350 acres in northern part of Buffalo; 20 minutes' ride from center of city; electric railways on three sides; 26 steam railways have access to exposition station. Architectural Features.—Twenty large buildings, a free adaptation of the Spanish Renaissance, by way of compliment to Latin-America. Albright Gallery of Art, costing over $350,000, and New York State Building, costing $150,000, of white marble, fire-proof, in the style of ancient Greek temples. Electricity.—Grandest electrical exposition ever held. Beautiful electric tower for display, 375 feet high; 5,000 horse-power transmitted from Niagara Falls, 4,000 horse-power developed on the grounds. Government Participation.—Appropriation, $500,000. Exhibits by all departments, including a life-saving station with daily exhibitions; post-office in daily use, lighthouse in operation, naval and ordnance displays, fish in acquariums, weather signal station in operation, displays by the mint; special exhibits from the Hawaiian and Philippine islands, Tutuila, Guam, Porto Rico and Cuba. Special Features.—Stadium for sports, seating 12,000 people. Temple of Music, seating 2,200. Leading bands of the world engaged for free concerts. Grand fashionable horse show. Exhibits of the Indians of the Six Nations. Grandest Midway ever produced, over a mile of new amusements, costing $2,500,000. Buffalo.—400,000 population; 26 railways, 250 passenger trains daily; 225 miles asphalt streets; 30 minutes' ride from Niagara Falls; coolest city in summer in the United States. Low rates on all railways during the exposition. For further information address: Pan-American Bureau of Publicity.

PARVULES.

(The Medical Fortnightly.)

Fluid extract of conium in half drachm doses is claimed to have given good results in threatened abortion.

The insomnia of heart disease is benefited by digitalis, strophanthus, strychnine and other cardiac tonics.

Hypodermic injection of a solution of camphor in ether is considered a rapid and powerful heart stimulant.

The value of oil of eucalyptus as a gastro-intestinal and genito-urinary antispetic should not be overlooked.

Suppositories of ichthyol, 5 to 10 grains, are recommended in prostatitis. They are used morning and night.

Dr. Hare thinks that the best mixture of iron for the blood, especially in chronic nephritis, is the old Basham's mixture.

Bryonia affects the muscles and, but more especially, the tendons. In rheumatism and pleuritis it may be depended on.

Dr. Phelps says that alcohol is an absolutely safe and sure specific against the escharotic action of pure carbolic acid.

For abscesses, take boric acid and acetanilid, equal parts, and glycerin to make thick paste; spread on a soft cloth and apply.

Belladonna is indicated in dullness, delirium, vertigo, headache, distention of the veins, epilepsy and typhoid fever, etc.

Dr. Hare, in speaking of kidney diseases, says that patients with renal troubles ought not to be sent to localities which are largely visited by phthisis patients, as Colorado.

It is said that the negro enjoys a singular immunity from catarrhal inflammation, but is prone to tuberculosis and syphilis.

Dr. Blever asserts that violet rays of light applied to the human system by means of electricity are an absolute cure for consumption.

Potassium chlorate one grain, and tincture of iron, ten minims, every two hours, acts splendidly in the treatment of ptyalism.

A dose of castor oil, although not sufficiently large to produce a movement of the bowels, will frequently allay the colicky pains in infants.

A reliable sign in pulmonary tuberculosis is increased whispering resonance long before it may otherwise be determined by the stethoscope or percussion.

It is stated that in eczema of the scalp in young children, berberis aquifolium acts nearly as a specific. The application of bismuth and lanolin externally will assist materially.

The action of ustilago on the uterus is powerful, but different from that of ergot. It causes regular intermittent contraction. The contractions produced by ergot are tonic.

Reports of Societies.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

The following announcement for the coming meeting of the Pan-American Congress to be held in Havana, Cuba, Dec. 26, 27, 28 and 29, 1900, has been received from the Secretary, Dr. Dhomrs V. Coronado, of Havana.

Executive Committee.—Drs. Juan Santos Fernandez, President; Gustavo Lopez, Vice-President; Enrique Acosta, Treasurer. Committee Members—Drs. Vincent B. Valdes, Jose I. Torralbas, Eduardo F. Pla, Thomas V. Coronado, Secretary.

The Secretary-General of the Executive Committee asks for professional co-operation in behalf of the third meeting of the Pan-American Congress.

He would be extremely pleased if you would favor him with your personal assistance, and also by interesting your Medical Societies, Universities and Medical Schools, as well as prominent colleagues who are teaching the medical sciences, so that they will take part in the Congress, and will send delegations, the members of which should forward their papers or titles according to the enclosed instructions.

The extraordinary impulse which experimentation and that multitude of auxiliary sciences whose progress amazes us has given to modern medicine affords the young American numerous advantages for study and investigations in the solution of many and varied problems that relate to the pathology and the pathogenesis of the numerous diseases.

"Our climate, our soil and the grade of civilization itself to which we have arrived produce appreciable modifications in the diseased conditions that develop in an atmosphere so distinct from that of Europe, and the diseases belonging to these altitudes, the study of which is being perfected each day, are sufficient motives to authorize the scientific investigations of our Congress. In these controversies the combined efforts do not represent the sum of the units that compose them, but represent the multiplication of them. The simultaneous work of all the investigations of the Americas presented and discussed at a given time surely must produce surprising results in reference to the utility and the practical application of the scientific productions of the men who cultivate the medical sciences on the American continent.

"Each Medical Congress enables us to make progress in an effective way in the study of the laws of epidemiology, the preventive indications, the modifications that stamp the time, or the social surroundings in the medical topography of each territory, the quarantine, isolation, etc. —in a word, everything that relates to the progress of medical work up to date.

"I sincerely hope that our sister nation whose medical attainments are so famous, will co-operate in promoting the success of the Third Pan-American Congress by sending the largest possible representation, both in delegates and scientific productions.

"I beg that you will mention in your reply the persons who will take part, and will send your papers at your earliest possible convenience. Very truly yours,

(Signed.) Dr. Thomas V. Coronado,
Secretario de la Commission Ejecutiva del Tercer Congreso Medico Pan-Amerincano,
Prado 105, Habana, Cuba.

The folder postal cards to be sent to the various members of the Pan-American Congress are worded as follows:

"Notice."—I have the honor to invite you to take part in the Third Pan-American Congress, which will meet in Havana on the 26th, 27th, 28th and 29th of December, 1900.

I beg you to reply whether you desire to be present and how many persons will accompany you, the invitation being extended to ladies. The committee hopes to obtain considerable reduction in the traveling rates, and for this reason needs to know beforehand the number of prospective visitors, and their place of residence. Awaiting the earliest possible reply, I am, yours respectfully, T. V. Coronado,
Sec'y of the Committee on Organization.

Form of Reply:—Sr. Secretario,
Dr. T. V. Coronado,
Prado 105, Havana, Cuba.

Name ....
Address ....
I will be present at the Congress ....
I will present a paper entitled................
....
I will send an abstract of the paper before Nov. 16th.

General Regulations.—The members of the Congress will consist of any physicians of the Western Hemisphere, including the Antilles (West Indies) and Hawaii that comply with the special regulations of registration or lend their services to the Congress in the capacity of foreign members.

International Executive Committee.—This committee will be nominated by the Committee on Organization, and will consist of one member from each country represented in the Congress. The members of this committee will hold permanent tenure of office, except when one of them fails to be present at a meeting, in which case his office will be declared vacant, and the vacancy will be filled by an election held by the members registered from his country. In case that there is no representative whatever from that country the members of the International Committee present should determine the course that ought to be taken.

The following will be considered the constituent countries of the Pan-American Medical

Congress: The Danish, French, Dutch and English Antilles (West Indies), Cuba, Puerto Rico, Argentine Republic, Bolivia, Brazil, Canada, Chili, Columbia, Costa Rico, San Domingo, Ecuador, United States, Guatemala, Hayti, Hawaii, Honduras, Mexico, Nicaragua, Paraguay, Peru, San Salvador, Uraguay and Venezuela.

The sections of the Congress will be the following:

1. Medicine.
2. General Surgery.
3. Military Medicine and Surgery.
4. Obstetrics.
5. Gynecology and Abdominal Surgery.
6. Therapeutics.
7. Anatomy.
8. Physiology.
9. Pediatrics.
10. Pathology.
11. Ophthalmology.
12. Laryngology and Rhinology.
13. Otology.
14. Dermatology.
15. General Hygiene and Demography.
16. Marine Hygiene and Quarantine.
17. Orthopedic Surgery.
18. Mental and Nervous Diseases.
19. Dental and Buccal Surgery.
20. Medical Jurisprudence.
21. Medical Pedagogy.
22. Railway Surgery.

Languages.—Article 9. The official languages of the Congress will be English, French, Spanish and Portugese.

Book Notices.

THE STUDENT'S MEDICAL DICTIONARY. Including all the Words and Phrases generally Used in Medicine, with their proper Pronunciation and Definitions based on recent Medical Literature. By George M. Gould, A. M., M. D., author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences," "30,000 Medical Words Pronounced and Defined," "The Meaning and the Method of Life," "Borderland Studies," etc. With elaborate Tables of the Bacilli, Micrococci, Leucomains. Ptomains, etc.; of the Arteries, Ganglia, Muscles, and Nerves; of Weights and Measures, Analyses of the Waters of the Mineral Springs of the United States, etc.; and a New Table of Eponymic Terms and Tests. Eleventh Edition, enlarged with many illustrations. Philadelphia: P. Blakiston's Son & Co. Price, $2.50.

This "handy" volume has been especially prepared for students of medicine, dentistry, pharmacy, or for practitioners in their early years of practice. It is an exceedingly comprehensive compilation of medical and kindred facts that will be found indispensable to those for whom the authors intended it. This edition is larger than the tenth by over a hundred pages. It is well illustrated and contains much more valuable information, such, for instance, as the eponymic terms and tests, which have been especially prepared for it. But for all the good things that may be said of the eleventh edition the authors do not claim too much for it, for the older physician, the educated layman, the lawyer, and the student of the more highly specialized branches of medicine will need the "Illustrated Medical Dictionary," published in 1894 (5th edition in 1900), for reference to all the technical information up to date. This new edition of the student's dictionary is a time-saver and a copy should be in the hands of every young practitioner who wishes the latest condensed reference book, as the low price of $2.50 will make it possible for all to provide themselves with so handy an aid in their work.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. With 243 Original Illustrations including Twelve Colored Figures. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology Eye Department, College of Physicians and Surgeons, Medical Department, Columbia University, New York. William Wood and Company, New York.

The author of this little work has studiously avoided long-detailed descriptions, so that the printers were enabled to prepare a volume that may be easily carried in the pocket by the student or general practitioner for whom it is intended. The subject matter has been treated clearly and completely, all the excessive details, extensive discussions, lengthy accounts and rare conditions, however, being omitted. It is not intended to replace the larger works on the same subject, but will aid the student and practitioner in getting a start in the study of the diseases of the eye. The illustrations are fine, and the index is remarkably full and comprehensive.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES. By James Nevins Hyde, A. M., M. D., Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College; Dermatologist to the Presbyterian, Michael Reese, and Augustana Hospitals, of Chicago; Consulting Dermatologist to the Chicago Hospital for Women and Children, and to the Chicago Orphan Asylum—and Frank Hugh Montgomery, M. D., Associate Professor of Skin, Genito-Urinary, and Venereal Diseases, Rush Medical College; Professor of Skin and Venereal Diseases, Chicago Clinical School; Dermatologist to St. Elizabeth's Hospital, Chicago. Second Edition, Revised and Enlarged. With 58 Illustrations in the Text, and 19 full-page Lithographic Plates. Philadelphia and

London: W. B. Saunders & Company. Price $4.00 net.

It is not for the expert that this valuable treatise has been written, but for the purpose of supplying the needs of the student and general practitioner. Sufficient detail has been given to bring out all practical facts in connection with venereal diseases and their treatment, and, at the same time, all disputable points have been carefully avoided, together with the minute data to be found in the voluminous treatises. The revising has been particularly fortunate, and some of the subjects have been practically rewritten, as, for instance, gonorrhea, and all of the subjects have been added to with a view to making the book more comprehensive, with, however, a proper elimination of the padding now so common in all branches of literature. The volume is very handsomely illustrated.

RHINOLOGY, LARYNGOLOGY AND OTOLOGY, AND THEIR SIGNIFICANCE IN GENERAL MEDICINE. By E. P. Friedrich, M. D., Privatdocent at the University of Leipzig. Authorized translation from the German. Edited by H. Holbrook Curtis, M. D., Consulting Surgeon to the New York Nose and Throat Hospital, and to the Diphtheria and Scarlet Fever hospitals. Philadelphia and London: W. B. Saunders & Company. Price $2.50 net.

The translator of the above work speaks of it in the most glowing terms, and his position in the New York hospitals gives weight to his opinions. He says: "It is certainly with pardonable enthusiasm that we greet a masterly treatise of a thoroughly original type, the intrinsic worth of which warrants its appearance in our own language. Freidrich has constructed a book so rich in statistics and reference, so learned in its argumentative deductions, and at the same time so convincing in the manner of conservative presentation, that no specialist can afford to neglect the opportunity of acquainting himself with the subject matter of his work." In preparing the original text the author has been dominated by the idea that in treating special disturbances in the organism it is necessary to take into consideration a knowledge of general medicine. Friedrich entered upon a rather hazardous experiment when he commenced to write upon the unity of the three specialties rhinology, laryngology and otology, but how well he has succeeded in his undertaking will be clearly apparent by a perusal of the letter-press. But he has not attempted to make of it a special text-book in the ordinary sense, the purpose being to awaken the interest of both the general practitioner and the specialist in the subjects treated. The translation is in plain unadorned English, such that the plainest practitioner may understand.

A TEXT-BOOK ON THE DISEASES OF WOMEN. By Henry J. Garrigues, A. M., M. D., Gynecologist to St. Mark's Hospital in the City of New York; Gynecologist to the German Dispensary; Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Physician to the New York Mothers' Home and Maternity Hospital; ex-President of the German Medical Society of the City of New York; Fellow of the American Gynecological Society; Fellow of the New York Academy of Medicine; Member of the Society for Medical Progress, of the Eastern Medical Society, of the New York County Medical Society, etc. With 367 Illustrations. Third edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Company. Price, cloth $4.50 net; sheep or half morocco $5.50 net.

The fact that a third edition of the above work was called for in two years demonstrates the favor with which it has been received by the profession. It has been thoroughly revised, and considerable new matter added. In the preparation of the new edition the author has been assisted by Drs. Evelyn Garrigues, Leon F. Garrigues, and Harry G. Watson; and the new drawings, which are very fine and clear, have been made by Mrs. Edith Hutchins. The work as now improved cannot fail to meet the approval and appreciation of its readers.

MODERN SURGERY—GENERAL AND OPERATIVE. By John Chalmers DaCosta, M. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. With 493 Illustrations. Third Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Company. Price, cloth $5.00 net; half morocco $6.00 net.

In the third edition of the work indicated above the original plan has not been changed, but much new matter has been added. The latter was quite necessary in order to keep pace with the rapid advances in surgery. It has been the aim of the authors to state the foundation principles of the science, the chief operations and the accepted methods, and he has presented to the profession a valuable book that stands between the cumbersome text-book and the necessarily much-epitomized compend. Dr. DaCosta starts out with bacteriology, a subject that must be properly understood in order to succeed in surgery according to the modern idea. Specialties are not touched upon, such as ophthalmology, gynecology, rhinology, otology and laryngology, for the simple reason that their proper consideration would be outside the scope of the work. Under the heading of orthopedic surgery are treated the conditions met with by the surgeon and general practioner.

Fractures and dislocations are ably and fully discussed, as their importance warrants. Operative surgery is given in separate sections, and this method will commend itself wherever the book is cited for authority, whether in the surgeon's operating room or in the surgical laboratory. The illustrations are quite numerous, and taking it altogether the book is a decided credit to the author and the publishers.

CLINICAL EXAMINATION OF THE URINE, AND URINARY DIAGNOSIS. A clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M. D., Instructor in Chemistry, Harvard University Medical School; Assistant in Clinical Pathology, Boston City Hospital; Medical Chemist to the Carney Hospital; Visiting Chemist to the Long Island Hospital, Boston. Illustrated. Philadelphia and London: W. B. Saunders & Company. Price $3.00 net.

The author has succeeded admirably in presenting a work that furnishes the student and practitioner with a complete clinical guide to urinary diagnosis in a single volume in compact and convenient form. The subject is considered in two parts: First, chemic and microscopic methods, made so plain that the student and practitioner will need no special training in urinary analysis to secure accurate results; second, diagnosis, which includes present knowledge of the urine, the diagnosis and differential diagnosis of disturbances and diseases of the kidneys and urinary passages, local or general, medical or surgical, together with a brief enumeration of the prominent clinical symptoms of each disease, and the peculiarities of the urine in certain general diseases of the body. It is a valuable work.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia Hospital; Physician to the Children's Hospital, Philadelphia, etc. With 372 Illustrations. Third edition, Revised. Philadelphia and London: W. B. Saunders & Company. Price cloth $5.00 net; half morocco $6.00 net.

The reason for the revision of Dr. Stengel's book on pathology was to bring the subject-matter up to date, and, particularly, to considerably amplify the sections on pathologic physiology. The revision was carefully made, and this, the third edition, is all that any physician could expect in a work on the important subject of pathology. The author was greatly assisted in his revision of the sections on neuropathology by Dr. Joseph Sailer. The subjects discussed are presented in a practical form, and always from the point of view of the clinical pathologist.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia, etc. Illustrated. Fourth Edition, thoroughly Revised. Philadelphia and London: W. B. Saunders & Company. Price, cloth $5.50 net; half morocco $6.50 net.

It was remarkable how quickly the third edition of Dr. Anders' book on the practice of medicine was exhausted. It was only a little over a year ago that the third edition was presented, but it has already been exhausted, and now the fourth edition makes its appearance. Many changes have, of course, been made, and considerable new matter has been added. The arrangement of the subject-matter has been considerably improved for the convenience of the student and practitioner. Modern methods of diagnosis, as well as most recent advances in therapeutics, have been introduced.

The general scope of the work is to introduce the student to the present state of knowledge of the practice of medicine in general, and of the diagnosis, differential diagnosis, and treatment of disease in particular. An immense amount of medical literature has been consulted in the preparation of the book in order to bring it up to date, which will be duly appreciated by users.

MODERN MEDICINE. By Julius L. Salinger, M. D., Demonstrator of Clinical Medicine, Jefferson Medical College; Chief of the Medical Clinic, Jefferson Medical College Hospital; Attending Physician to the Philadelphia Hospital—and Frederick J. Kalteyer, M. D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hematologist to Jefferson Medical College Hospital; Pathologist to the Lying-in Charity Hospital, Philadelphia; Assistant Pathologist to the Philadelphia Hospital. Illustrated. Philadelphia and London: W. B. Saunders & Company. Price, cloth $4.00 net; half morocco $5.00 net.

The authors of this new work on modern medicine considered it advisable to consolidate in one volume the consideration of physical diagnosis, bacteriology, the examination of the gastric contents, the urine, the blood, and the feces, and other topics, which intention was successfully accomplished. They were also fortunate in their aim to give the main facts in regard to etiology, pathology, symptomology, diagnosis, prognosis, and treatment as considered from a modern and generally accepted standpoint. All the modern medical works in several languages have been consulted in the preparation of the letter-press.

SAUNDERS' POCKET MEDICAL FORMULARY. With an Appendix containing Posological table; Formulae and Doses for Hypodermic Medication; Poisons and their Antidotes; Diameters of the Female Pelvis and Foetal Head; Obstetrical Table; Diet List for various Diseases; Materials and Drugs used in Antiseptic Surgery; Treatment of Asphyxia from Drowning; Surgical Remembrancer; Tables of Incompatibles; Eruptive Fevers; Weights and Measures, etc. By William M. Powell, M. D., Author of "Essentials of Diseases of Children;" Member of the Philadelphia Pathological Society, etc. Sixth Edition, thoroughly Revised. Philadelphia and London: W. B. Saunders & Company. Price $2.00 net.

This handsome little book for the pocket 4 x 6½ inches, and ¾ of an inch thick, bound in serviceable leather with flap, cannot be too highly recommended. It is chock full of the finest collection of formulæ for the various diseases ever published, and many blank pages are left scattered throughout the book for users to introduce private prescriptions. Some two hundred formulæ have been added in this edition, and the dose-table is brought up to date. The book forms an invaluable aid to any physician, and its low price will no doubt place it in the hands of all progressive practitioners.

SURGICAL PATHOLOGY AND THERAPEUTICS. By John Collins Warren, M. D., LL. D., Professor of Surgery in Harvard University; Surgeon to the Massachusetts General Hospital. Illustrated. Second edition, with an Appendix containing an Enumeration of the Scientific Aids to Surgical Diagnosis, together with a Series of Sections on Regional Bacteriology. Philadelphia and London: W. B. Saunders & Company. Price, cloth $5.00 net; half morocco $6.00 net.

It has been truthfully said that no young practioner is well equipped for surgical work who is not both a good pathologist and an expert bacteriologist. In Dr. Warren's work pathological conditions are closely associated with symptoms and treatment of surgical diseases. Students are impressed thereby with the value of these lines of study as a firm foundation for good clinical work. In this, the second edition, a new appendix replaces the old one of the first edition, and the matter on antiseptic surgery is exceedingly complete. The book is handsomely illustrated, and the colored plates are exceptionally fine. It will be found not only very serviceable to the general practitioner, but to specialists in several of the departments of surgery.

SAUNDERS' QUESTION COMPENDS—"ESSENTIALS OF HISTOLOGY." By Louis Leroy, B. S., M. D., Professor of Histology and Pathology in Vanderbilt University, Medical and Dental Departments; City Bacteriologist to Nashvile, Tenn.; Bacteriologist to the State of Tennessee, etc. Arranged with Questions following each Chapter. Seventy-two Illustrations. Philadelphia: W: B. Saunders & Co. Price $1.00 net.

This is another of that excellent series of question compends published by the Saunders company. It will be found quite convenient for the practitioner who is a little rusty in the study of the important topics discussed. The statement is clear, regardless of the fact that it was necessary to enormously condense. Students will find that in the use of this little work voluminous notes will practically be unnecessary.

A REVIEW OF RECENT LEGAL DECISIONS affecting Physicians, Dentists, Druggists and the Public Health, together with a Brief for the prosecution of Unlicensed Practitioners of Medicine, Dentistry, or Pharmacy, with a Paper upon Manslaughter, Christian Science and the Law, and other Matter. By W. A. Purrington, of the New York Bar; Counsel of the Dental Society of New York, and Lecturer of Medical and Dental Jurisprudence in the New York College of Dentistry, and one of the Collaborators in "A System of Legal Medicine," by Allan McLane Hamilton, and others, etc. New York: E. B. Treat & Company, 241-243 West 23d street. Price 50 cents.

Of recent years so many cases have been brought into court by vicious and otherwise inclined persons against physicians of the highest standing that it is often important to have for ready reference a compilation of past decisions. Such a compilation has been prepared by the author of the above work, and the low price at which it is sold should give it a tremendous sale among medical men.

A POCKET MEDICAL DICTIONARY. Giving the Pronunciation and Definition of the Principal Words used in Medicine and the Collateral Sciences. Including very complete Tables of Clinical Eponymic Terms, of the Arteries, Muscles, Nerves, Bacteria, Bacilli, Micrococci, Spirilla, and Thermometric Spirilla, and Thermometric Scales, and a Dose List of Drugs and their Preparations, in both the English and Metric Systems of Weights and Measures. By George M. Gould, A. M., M. D., Author of "The Illustrated Medical Dictionary," "The Student's Medical Dictionary"; President, 1893-1894, American Academy of Medicine. Fourth Edition, Revised and Enlarged. Thirty thousand Words. Philadelphia: P. Blakiston's Son & Co. Price $1.00.

This little volume is handsomely bound in leather, and is 3½ by 6 inches in size, and 1 inch in thickness— a very convenient book to carry in the pocket. Much new matter has been added to the fourth edition, and taking it altogether users will find it exceedingly useful for hurried c sultation. The words defined are those of the living medical literature, all obsolete words of course having been omitted.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholomew, M. A., M. D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia; formerly Professor of Materia Medica and Therapeutics and of the Practice of Medicine in the Medical College of Ohio; Fellow of the College of Physicians of Philadelphia; Member of the American Philosophical Society; Honorary Fellow of the Royal Medical Society of Edinburgh; Honorary Member of the Société Medico-Pratique de Paris, and of various National. State, and County Medical Societies. Author of a Treatise on the Practice of Medicine; of a Treatise on Medical Electricity; of a Manual of Hypodermatic Medication; of the Russell and Jewett Prize Essays, and Prize Essays of the American Medical Association and of the Rhode Island Medical Society, etc. Ninth Edition, Revised and Enlarged. New York: D. Appleton & Company. Price, cloth $5.00; sheep, $6.00.

A writer on materia medica must of necessity do an immense amount of detail work in looking up authorities and a deluge of medical literature. Recent work in this line must take into consideration so many new pharmaceutical preparations that it would seem well-nigh impossible for any one person to cover the ground in a concise manner, but the author of the above has done remarkably well in his efforts, for he has presented a compilation in such an interestingly readable manner that he has robbed the subject of much of the usual dryness. But the present book is the tenth edition, which is brought up to date, and, of course, includes much new matter.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. By Henry P. Bowditch, M. D.; John C. Curtis, M. D., Henry H. Donaldson, Ph. D.; W. H. Howell, Ph. D., M. D.; Frederic S. Lee, Ph. D.; Warren P. Lombard, M. D.; Graham Lusk, Ph. D., F. R. S. (Edin.); W. T. Porter, M. D.; Edward T. Reichert, M. D.; Henry Sewall, Ph. D., M. D. Edited by William H. Howell, Ph. D., M. D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second Edition, Revised. Philadelphia and London: W. B. Saunders & Company. Price, Vol. I, $3.00 net.

The contents of the first volume of the above work embrace the subjects: Blood, Lymph, and Circulation; Digestion, Secretion, and Nutrition; Respiration and Animal Heat; and Chemistry of the Body.

The Contributors to this volume are, John G. Curtis, M. D., Prof. of Physiology in Columbia University (College of Physicians and Surgeons); W. H. Howell, Ph. D., M. D., Prof. of Physiology in the Johns Hopkins University; Graham Lusk, Ph. D., F. R. S. (Edin.) Prof. of Physiology in the Yale Medical School; W. T. Porter, M. D., Assistant Professor of Physiology in the Harvard Medical School; Edward T. Reichert, M. D., Prof. of Physiology in the University of Pennsylvania.

The above names are sufficient for the profession to realize that the work has been thoroughly prepared, and that the reader will find the instruction fully up to the most modern and accepted ideas concerning the various subjects treated.

CHRISTIAN SCIENCE. An Exposition of Mrs. Eddy's Wonderful Discovery, including Its Legal Aspects. A Plea for Children and other Helpless Sick. By William A. Purrington, Lecturer in the University and Bellvue Hospital Medical College, and in the New York College of Dentistry upon Law in Relation to Medical Practice, one of the Authors of "A System of Legal Medicine." New York: E. B. Treat & Co., 241-243 West 23d street. Price $1.00.

The author of the above work has thoroughly exposed the weakness of any argument in favor of treating disease by the Christian scientists (so-called). He has cited cases to prove all the statements he has made as to the folly of trusting the sick in their hands, and sufficient to satisfy any one not so blind that he will not see the truth when presented in the strongest and clearest light.

A HANDBOOK FOR NURSES. By J. K. Watson, M. D., Edin., late House-Surgeon, Essex and Colchester Hospital; Assistant House-Surgeon, Sheffield Royal Infirmary and Sheffield Royal Hospital. American Edition, under the supervision of A. A. Stevens, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to St. Agnes' Hospital, Philadelphia. Philadelphia and London: W. B. Saunders & Company. Price $1.50.

We are aware that it is a very difficult matter to write a book expressly for nurses, but in the present instance the author has struck the happy medium in the matter of scope, neither too much is offered for the nurse nor too little. The matter is not too profound for the needs of the nurse, nor too superficial for practical value. It is a compact presentation of the subject by a man thoroughly versed in hospital and home work among the sick.

SAUNDERS' MEDICAL HAND-ATLASES—ATLAS OF THE EXTERNAL DISEASES OF THE EYE. Including a brief Treatise on the Pathology and Treatment. By Prof. Dr. O. Haab, of Zürich. Authorized translation from the German. Edited by G. E. de Schweinitz, A. M., M. D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia; Consulting Ophthalmologist in the Philadelphia Policlinic; Ophthalmic Surgeon to the Philadelphia Hospital and to the Orthopedic Hospital and Infirmary for Nervous Diseases. With 76 Colored Plates and 6 Engravings. Philadelphia and London: W. B. Saunders & Company. Price $3.00 net.

The exquisite colored plates showing many of the external diseases of the eye in this handy volume cannot be too highly praised as results of the illustrator's art in delineating from nature, for they are nearly all from actual cases that came to the clinics under charge of the author. The book forms an excellent companion-book to Dr. Haab's "Atlas of Ophthalmoscopy and Ophthalmoscopic Diagnosis." It is one of the excellent series of Saunders' Series of Atlases.

OTHER BOOKS AND REPRINTS RECEIVED.

"Aortic Regurgitation with Remarks upon Flint's Murmur and Paroxysmal Sweating," by Alfred Stengel, M. D., Philadelphia, Pa., Professor of Clinical Medicine, University of Pennsylvania.

"Abortion," by A. D. Wilkinson, M. D., Lincoln, Neb.

"The Diagnosis of Chlorosis and Chloro-Anemia," by Alfred Stengel, M. D., Philadelphia, Pa.

"The Immediate and Remote Effects of Athletics upon the Heart and Circulation," by Alfred Stengel, M. D., Philadelphia, Pa.

"Acute Enlargement of the Thyroid Gland, with Report of a Case," by Alfred Stengel, M. D., Philadelphia, Pa.

"The Diseases of the Blood in Their Relation to Surgery, and Their Treatment," by George G. van Schaick, M. D., New York City.

"Medicine as a Business Proposition," by G. Frank Lydston, M. D., published by The Riverton Press, 132 Market street, Chicago, price 25 cents.

"Some Points in the Management of Obstetrical Cases in Private Practice," by Joseph Brown Cooke, M. D., New York City.

"An Essay on the Reduction of Obesity, with Special Reference to the Use of Granular Effervescing Salts of Vichy and Kissingen," by William T. Cathell, A. M., M. D., Baltimore.

"Pachymeningitis," report of a case and autopsy, by Samuel E. Earp, M. S., M. D., and John T. Scott, M. D., of Indianapolis.

"A Crushable Button as an Aid to Suturing in Intestinal Anastomosis," by R. C. Coffey, M. D., Portland, Ore.

"Hemorrhage and Circulatory Disturbances in Complicated Fracture;" "The Management of Large Congenital Exomphalos—Infantile;" "On Radical or Tentative Treatment of Piles;" "The Therapy of Feminine Hernia in the Adult," by Thomas H. Manley, M. D., New York City.

"Annales des Sciences Naturelles. Zoologie et Paleontologie," by M. Edmund Perrier, Tome, Nos. 2 to 6. Paris: Masson et Cie, Editeurs.

PROFESSIONAL TACT AND HOW TO ACQUIRE IT.

In acquiring tact, it is by no means an empty phrase to say that the heart must help the head. Certain mental gifts are necessary to produce it, the most important of which is imagination. Without this quality one is unable to look at a situation from the standpoint of another, or to weigh and measure the effect of words or actions upon another's feelings. So essential a factor is imagination that it is doubtful whether a person lacking it can ever become scientifically tactful. It is this factor which, in a flash, shows one the effect which is being produced upon the minds of others as clearly as the image falls upon the lens of the camera, and thus opens the way for tact to meet the occasion. Sympathy and imagination might well be called the mainsprings of tact.

There is in addition to these what may be called the merely mechanical part, which can be acquired as the fingers of the musician can be trained by actual practice. It consists principally in the habit of giving complete attention to what is transpiring at the moment. This enables a physician, for instance, to understand and adjust himself to the individualities of his patient, and to gain the mental quickness which responds at once and appropriately. We have all realized the difference between talking with a fine conversationalist who has this habit of attention, which secures a quick comprehension and response to the thoughts of others, and attempting to make one's way against the inattention and wide remarks of a listener whose mind is constantly wandering to other and irrelevant things. The habit of concentration is essential to the acquirement of tact, which, in its highest usefulness, is protective, and is often interposed as a shield to receive and turn aside any objection or contention which might arise.

It would be unprofitable even to suggest occasions upon which tact might be used to advantage in the medical profession. No two cases are exactly the same, and each one must be judged entirely upon its own merits. Contrary to the conception held by some practitioners, the highest type of tact does not run away from but parallel to perfect truth, though it may portray that truth in bright or sombre colors as may befit the individual patient or the case in hand. Tact is not "smartness," nor will it effectively cover up the tracks which "smartness" is morally sure to leave. Speaking generally, it may be said that a tactful physician will have every appearance of being sincere in and well adapted to his calling. He will show the same respect to all, whether patients or their friends, or not. He will be openly at the service of his patients, when it is proper that he should be so, and they will not fear to take up a trifle of his time and attention in a reasonable manner. He will not insist upon displaying his professional knowledge at all times, but will do so boldly when it is meet that he should. If he is called upon to venture either word or act in his special capacity, he will do so gracefully and cautiously; and if not correct he will be quick to discover the error, and instant in rectifying it, with little or no comment. He will be supercilious to no one, either patient or visitor; he will gain friends and patients wherever either can reasonably be gained, and will leave a favorable impression of himself and his professional standing in the minds of all with whom he comes into contact.—Medical Age.

ADRENAL.

An aqueous extract of the suprarenal gland is favorably spoken of as a hemostatic and vasomotor constrictor. Dr. Somers, of Philadelphia (Merck's Archives), concludes an interesting paper on the subject, based upon his experience with the drug in the lower animals, and four hundred and fifty cases in hospital and private practice, as follows:

1. The aqueous extract of the suprarenal gland is the most powerful astringent and vasomotor constrictor that we possess.
2. Its action is peripheral, is exerted directly on the vessel walls and basement membrane, and is limited only to the parts with which the drug comes in contact.
3. Is non-toxic, non-irritating, cannot produce a vicious habit, and may be repeatedly used on the same individual without losing its power.
4. It prevents to a marked extent the toxic effects of local anesthetics by retaining them in the tissues and preventing absorption.
5. The aqueous extract readily decomposes on account of the large amount of animal matter present, but the degree of putrefaction in no way impairs the physiological activity.
6. It first blanches and then contracts mucous tissues, and will subdue active or passive inflammation.
7. Its activity is not impaired by boiling and it may be repeatedly sterilized in this manner, while carbolic acid will preserve the solutions indefinitely and in no way impair their value.
8. It will prevent primary, and greatly lessen danger of secondary, hemorrhage.
9. Its action is manifested in twenty seconds, attains its maximum in five minutes, and lasts from one and one-half to twenty-four hours.
10. It increases the tonicity of the parts, augments the action of other drugs, especially cocaine, and diminishes post-operative swelling.
11. Markedly restricts exuberant granulation tissue wherever situated.
12. Finally, diminishes secretion and aids in more rapid healing.

It is generally agreed that when applied to a mucous membrane the parts become shrunken and are rendered absolutely bloodless. The condition of absolute blanching is secured in five minutes after the application is made. The drug seems to be indicated in hay fever, nasal hydrorrhœa, and bleeding from mucous surfaces. —Miss. Med. Record.

FISTULA IN ANO.

The conclusions of Samuel G. Gant, M. D., Medical Record, July 7, 1900:

1. Tubercular fistula of the anus is usually secondary to tubercular disease of the lungs.
2. Pulmonary phthisis is rarely, if ever, secondary to fistula in ano, either before or after operation.
3. Tuberculosis of the anal region should be dealt with radically, as is recommended when it attacks other parts.
4. When the patient's general condition will permit we should operate on all fistulæ, irrespective of the kind.
5. We should not refuse to operate on persons suffering from a mild form of phthisis, nor on those who give a family history of tuberculosis. Certainly if we arrest one destructive process, nature is all the more capable of dealing with the others.
6. I believe that those patients operated on for tuberculous fistula and those that are non-tuberculous, complicated by phthisis, who rapidly decline and die, do so as the result of an inflammation of the lungs induced by the anesthetic, especially ether. Such accidents have not followed any of the operations which I have made under a local anesthetic.
7. Lastly, I believe we are justified in discarding the erroneous teachings of writers who believe that the cure of a fistula will result in a development of phthisis.—Chicago Clinic.

Even the moving picture has become an accessory to medicine and surgery, for one hospital in New York has adopted a camera to record minutely the action of patients in epileptic fits and similar affections, and many moving pictures have been taken, showing the movements in walking of persons afflicted with locomotor ataxia. They are produced slowly on the screen, so that physicians are enabled to study the symptoms carefully. Moving pictures have been taken in Vienna, showing operations being performed by great surgeons.

THE SERUM TREATMENT OF TUBERCULOSIS.

(Jour. A. M. A., Oct. 6, 1900.)

The paper of Mircoli, abstracted below, seems worthy of at least passing comment. The striking results with so large a series of cases, nearly 3,000, from the use of the Maragliano antitoxin in the different forms of tuberculosis are better shown in his tabulated statements than in our abbreviated report. Over 14 per cent. of the cures added to nearly 50 per cent. of "improved" is a good showing. When we analyze the figures further and find that the disease progressed during the treatment in only about 18 per cent., and that the disease in the cases rated as improved tends to be permanently checked, it is still better. Even in the advanced cases with cavities already formed, only in about one-third was the disease still progressive during the treatment. Besides these results, which, it must be said, were attained with the additional aid of general hygiene and dietetic treatment, the paper reports other facts of great interest. One of these is that while blood-serum of the normal individual has an antitoxic action toward the tuberculous toxins and that of the tuberculous patient has not, the latter regains this after a month or so of treatment with the Maragliano serum, thus showing that the latter puts the system into a condition to assist in defending itself. Mircoli's opinions as to tuberculin are also noteworthy. He holds that it directly increases the amount of toxins already in the organism, and in tuberculous individuals it may need "only the fraction of a gram to overthrow the already unstable equilibrium." When we remember that the use of tuberculin is being advocated by some for a diagnostic purpose, these statements are deserving of careful consideration. If we accept, with Mircoli, the views of Naegeli that practically all persons are or have been infected and still carry the latent foci in their bodies, this possibility of stirring them up to activity is a very serious one. While all the views and facts contained in Mircoli's article are not new, yet it is worthy of careful attention as an important contribution on the therapeutics of tuberculosis. Something must be allowed, however, for a possible enthusiasm in such a paper, and it may be perhaps considered as somewhat of an ex parte view of the method.

The Abstract: Mircoli tabulates the results of this treatment in 2,899 tuberculous patients, mentioning the results on the bacilli, the local lesions and the weight. He classifies the cases as circumscribed apyretic, circumscribed febrile and diffuse tuberculous bronchitis with and without microbian associations, and broncho-pulmonitis with cavities. Out of 250 circumscribed apyretic patients, 95 were cured, 110 improved, 30 remained stationary and 35 grew worse. In circumscribed febrile patients, 168 out of 938 were cured, 511 improved, 163 remained stationary and 96 grew worse. Out of 332 patients with diffuse tubercular bronchopulmonitis with microbian as-associations, 31 were cured, 142 improved, 98 remained stationary and 61 grew worse. In diffuse tubercular bronchitis without microbian associations, 91 out of 665 patients were cured, 301 improved, 166 remained stationary and 106 grew worse. Out of the 712 patients with bronchopulmonitis with cavities, 30 were cured, 281 improved, 102 remained stationary and 240 grew worse. The improvement obtained with antitoxin treatment is usually permanent. It seems as if the organism, once assisted to effectively defend itself, is able to continue the struggle successfully for years afterward alone. The antitoxin does not act on pyogenic associations nor in cases in which the system is unable to respond to the stimulus of the anti-toxin. The aid of hygienic and dietetic measures is also indispensible. The best results were attained with 1 c.c. injected on alternate days. The anti-toxin not only neutralizes the toxins, but stimulates the production of "alexins." Its power is shown by examining the blood of patients before and after treatment. The serum of a normal person has a toxic power and also a specific antitoxic power on the tuberculosis toxins to a certain extent. In a tuberculous subject, the former property is above normal, while the latter is nearly if not entirely absent. This condition tends to enhance the effect of the tuberculosis toxins in the system. A month or so after treatment with anti-toxin both properties are the same as in a normal subject. This artificially-induced antitoxic power must be due to the active participation of the organism as the potential must be hundreds of times greater than the small amount of anti-toxin actually injected. Experimental tests show that the anti-toxin also has a direct action on the bacilli, inhibiting their growth and virulence. None of the bacilli develop or produce infection after being kept in anti-toxin for twenty days in vitro. Tuberculosis intoxication may be conquered without medication, but when the physician is not positively sure that a spontaneous cure is impending, he should bear in mind that nature can be aided and the intoxication conquered more rapidly and more energetically with anti-toxin treatment than with any other. It is applicable to all cases and all stages. Tuberculin, on the other hand, adds to the toxins already in the organism, and may prove the last straw to upset an already tottering equilibrium. The recent research on hemolysins has confirmed Maragliano's fundamental conceptions of anti-toxin treatment and the autoserotherapy it induces. Naegeli's statements are also confirmatory; he found with improved methods of post-mortem investigation that 100 per cent. of the adults examined presented evidences of tubercular lesions, and claims that every adult is tuberculous. The strong are able to transform an active lesion into a latent, inactive process, and Maragliano, by supplementing the natural resources, re-enforces the weak and enables them to accomplish the same result.

THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II. MINNEAPOLIS, DECEMBER, 1900. No. 12.

Symposium on Tuberculosis.

*ON THE NEED OF SANATORIA IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By J. H. Stuart, A. M., M. D., Minneapolis.

I do not propose on this occasion to present any elaborate plan of treatment to be followed out in the management of pulmonary tuberculosis, but simply to present a few ideas on the subject as they may be gleaned from current literature. They are from the contributions of leading, up-to-date authorities, and may be accepted as far as they go as showing the trend of advanced thought and practice in regard to this disease.

It may be truthfully said in this instance that "old things are passing away and that all things are becoming new." In the place of despair and the calm resignation of helplessness with which the consumptive has heretofore been treated by the profession to a routine supply of cough syrup, cod liver oil, its emulsions, hypophosphites, &c., to say nothing of the multitude of "cures" and "specifics" that have attained more or less notoriety, we observe a growing confidence on the part of the physician in his ability to do something, and we hear him speaking words of cheer and hope, and inspiriing courage and gladness.

"Consumption is both preventable and curable." This is the response from many quarters. Already the death rate in some places is said to be perceptibly on the decrease. Percentages of cures are being shown that are most encouraging.

According to Knopf's statistics the most favorable results are, "Absolute cures, 14 per cent, relative cures, 14 per cent, amelioration 42 per cent." The same author, before the assembled Board of Health at Detroit, said, speaking of the results of post-mortem examinations: "The chances of the disease being healed without having been discovered are between 20 and 25 per cent;" "That 9 per cent of those dying of non-tubercular diseases have been shown to have had phthisis at some time in their lives" and "That the greatest chance of a predisposed individual being taken sick is between the ages of puberty and thirty."

Dr. Clifford Allbutt, quoting Birch-Hirschfeld, shows that in 40 per cent of 4,000 autopsies, taken consecutively, tuberculosis was found. The disease was also found in 27 per cent of cases dying from non-tubercular diseases. The same author quoting from Turban's statistics, shows that patients treated in the very first stages are relieved, if not cured, in 84 per cent.

Dr. Knopf says: "Tuberculosis is a preventable and curable disease. Let us emphasize these important points in our crusade against it."

But in view of what is said here in these statements it must be remembered that they are only made of the early stage or stages. The disease is conveniently divided into three stages The first, or early stage, the second stage, when consolidation may be determined by means of physical diagnosis, and the third stage, that of cavities, secondary infection, toxemias, &c.

Dr. Allbutt, quoted above, says, that patients in the third stage are probably incurable. Patients in the second stage, i. e. of physical signs of consolidation, if curable at all, only by at least 18 months of long persevering treatment.

It is, therefore, with reference mainly to the first stage that these inspiring statements are made, and, therefore, it is to this stage that the physician is to direct his efforts for the cure and eradication of this disease. Right here has existed the difficulty in the past, and it still continues. The first stage is commonly passed, or well established, before the patient presents himself before the physician. During this period he has not regarded himself, nor have his friends allowed themselves to regard him, as being sick, or in need of a physician's aid, notwithstanding his family history and his symptoms, even, have altogether aroused anxiety and apprehension in the minds of them all. But a change in these matters is being brought about. Much, however, remains to be done in the way of education and even of active interference of the physician. The educational process will, no doubt, be long and difficult, but it must go on. A general public scare begotten by newspaper articles, by sanitary legislation and the grosser appearances of the disease, is by no means sufficient to bring the

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*Paper read before meeting of the Hennepin County Medical Society, November 5, 1900.

victim to the timely notice of the medical adviser. If the physician himself in his own person might pass beyond the stage of safety without heeding it, and he does sometimes, because either of his indifference or of his lack of nice apprehension of significant signs and symptoms, much more might this be the case with the layman.

Treatment and prophylaxis run into each other and become in a sense one and the same, but that matters not, for both devolve alike upon the physician. There is, however, a matter of even greater difficulty encountered which I would not even in a cursory way allude to were it not so intimately blended with my topic, and that is the early detection of the first symptoms of the threatening sickness, that the proper interference may be had. On this discovery the matter of treatment must depend. It is the treatment and the kind of treatment this stage calls for that is now more particularly under consideration. It is from such conditions that the favorable results above referred to are to be expected. This is some times spoken of as the pre-tubercular stage, because in it are not often to be found either Koch's bacillus or it's toxins, and it is doubtful, in many instances, if the microbe may have even formed a lodgment, nevertheless we are morally certain it will, and that speedily, unless the vulnerable territory becomes rightly fortified against it. What, then, constitutes this stage? What is the nature of this susceptibility? Why does it exist in one instance and not in another? Why do certain families produce members regularly, generation after generation, in whom it is found in such ready activity? Why do certain environments not only quicken it in this class, but also beget it in an otherwise non-susceptible class? These and other kindred questions I must pass by now.

An editorial in the Medical News of January last, under the title of "Pretubercular Stage of Consumption," says: "The possibility of diagnosticating the preliminary pathological conditions denominated the pretubercular stage is now quite within the physician's grasp. Certain signs of the nervous system occur, before other symptoms are noticeable. Reference is made to interference with the vaso-motor system which disturbs peripheral circulation, which, when manifested in the pulmonary system, provides suitable conditions for lodgment and culture of tubercular bacilli. The toxins of tubercular bacilli possess this aptitude of disturbing peripheral or regional circulation; hence, the bright hues and brilliant eyes with dilated pupils seen in consumptive families; the readiness to perspire, neurasthenia, capricious appetite, the 'intestinal blush', supposed to account for the occasional looseness of bowels incident to excitement and emotion, which have their source in these vaso-motor disorders."

Dr. Freudenthal, of New York, in the same Journal of February last, said: "There is another point which has not been brought out, so far as I know, in this connection, viz: the trophoneurotic condition of the consumptive. I am of the opinion," says he, "which has been ventliated by others, that consumption is in the first instance a trophoneurotic condition of a general and local nature. It is only later that an invasion of the tubercular bacilli takes place. It is supposed that the vagus is in some way involved, but there is a general trophic insufficiency of the consumptive. Thus the soil is prepared for the specific infection of the tubercular bacilli. It is this condition we are called upon to correct, if we are able to detect it, by a change of surroundings, open air, rest, ample nourishment and right occupation, i. e., one which shall be specially enjoyable. This latter suggestion is a good one, better, I think, than a surfeit of forced rest in non-febrile periods, and routine walking and exercise.

Dr. Allbutt believes that heredity, or predisposition, is an important factor in the origin of the disease, but that this hereditary proclivity, other things being equal, is of no great importance in prognosis, i. e., I suppose, the disposed and non-disposed are alike curable.

At the tuberculosis congress, held in Naples, last April, the subject was discussed amidst enthusiasm by the masters in Europe.

Prof. Guido Baccelli, Minister of Public Instruction of Italy, in his inaugural address said: "A holy war is inaugurated against tuberculosis. The discovery of the tubercule bacilli was one of the most colossal achievements of our time, but it did not, in itself, furnish anything like a complete solution for the problem. Koch's bacillus is only the historic exponent of tuberculosis, it is not the whole of tubercule, much less of phthisis."

Prof. DeGiovanni, who initiated the great movement against tuberculosis in Italy, pled for the systematic treatment of persons predisposed to the disease, in special hospitals or institutions closed against other diseases. He would examine all children with greatest care that all physical characteristics leading to phthisis might be discovered. Prophylaxis in infants is even more important than in the adult.

Landozy, of the Academie of Medicine, said: "The importance of soil in connection with contagion made it imperative at any price to establish a regular system of puericulture or hominiculture in order to render the human family refractory against this disease, or to teach it how to defend itself."

Petruschky insisted that doctors should learn to prediagnose the disease and make the first symptoms widely known as possible.

The discussion on sanatorial institutions for the exclusive treatment of consumptives is said to have been full of promise of the rich fruitage yet to come through this source.

It was carried by acclamation that a chair for the experimental and clinical study of tuberculosis should be established in one of the largest universities.

An editorial in the British Medical Journal says, "The success of the movement against tuberculosis seems to be dependent mainly on the education of the people in regard to the means of prevention. Baccelli holds that compulsion is necessary wherever the arm of the executive can reach, as in public offices, the army and navy, schools, factories, work shops, cattle markets, slaughter houses, and even in private dwellings. Here the state should suppress consumption vi et Armis."

But the less fortunate should not be overlooked. Finding themselves with phthisis, they should be persuaded that society proposes and is anxious to help them.

Dr. Knopf strenuously opposes the proposition to have all consumptives reported and kept under surveillance. Should such be necessary every patient should receive all the tender care he needs.

Dr. Alfred Hillier, London, in an article in the British Medical and Surgical Journal, on "Tuberculosis, its Nature, Prevention and Treatment, with Special Reference to Open Air Treatment," says: "All phthisis therapeutists will concur in the conclusion that the benefit derived in every case is chiefly dependent on the extent to which the patient is continually kept in pure air." To which I may add, that the question of climate has no great signification, I believe, beyond that of the presence of malaria.

Dr. Walther, of the Nordrach Sanatorium, Germany, says: "Sanatorium treatment should be largely educational, to teach what can be practiced hereafter." This is an important statement, and its verification has been repeatedly observed.

Dr. Hillier summarizes the object to be obtained in sanatoria thus: "Pure and abundant open air by day and night, indoors and out; such good and plentiful food as the simple open air life may enable a patient to digest; rest, frequent and prolonged rest."

Dr. Alfred Meyer, in the Medical News, Oct. 27, 1900. strongly urges, with valid reasons, that New York City should without delay devise and supply means for a municipal sanitoria outside the corporate limits for its consumptive poor; that the expense should not be allowed to remain an obstacle to such a procedure, which would in truth become a real saving to the community. The state has already set about a work of this kind.

In proof of the hopefulness of the medical profession of the curability of this disease, Dr. Meyer points out the result of sanatorium treatment coming in from all parts of the world. "In the German sanatoria about 20,000 incipient cases can receive treatment for three months each, and 72 per cent. of these return to the ranks of the wage earners." "The German Invalid Insurance company has established sanatoria as a life and money-saving measure."

An editorial in the Medical News forcibly speaks of the lingering consumptive death of the laboring poor man as being more cruel than the sudden terrorizing plague. There are 8,000 deaths from this disease in New York City every year, and 30,000 more likely to die.

Where shall the tuberculous patient be treated? It must either be at his home, by change of climate, or at a sanatorium. By the last is meant a consumptive sanatorium closed against all other diseases, built and managed in the interest of this class only. These institutions are multiplying rapidly both in Europe and in this country. It is in them that the excellent results already alluded to are obtained. But they should multiply and grow in number until one may be found near or accessible to every community whose magnitude and needs call for it. Few if any districts need go far from home to find a suitable spot on which to erect a sanatorium.

There is no climatic specific for consumption in itself. The value of sanatorial treatment depends on the regime and methods prevailing in and about the institution.

Dr. Wm. Osler, Jour. A. M. A., November last, says: "Ninety-five per cent of patients cannot afford treatment away from home." He also says: "Arrest or cure is a question entirely of nutrition, and the essential factor is to improve the resisting forces of the body so that the bacilli cannot make further progress, but are hemmed in and either effectually prevented from breaking through the intrenchments, or in rare cases are forced to capitulate."

Dr. Hazelton, in Med. News, of April last, succinctly states the points to be borne in mind in reference to treatment of phthisis pulmonalis. He says: "The germicidal treatment has been proven by experiment and clinical experience to be utterly valueless. Tuberculin has as yet no well proven field of usefulness as a cure. The The antitoxin treatment is yet in the stage of trial waiting future developments. Hence we are left to attack the tubercule indirectly by improving the patient's condition, by the aid of food and hygienic living in the open air."

Osler says of diet that the stomach controls the situation in pulmonary tuberculosis. Overfeeding, or stuffing, when possible, should be practiced and the patient should be encouraged to pay little attention to his subjective gastric sensations.

I can conceive that overfeeding or stuffing, might be injurious in their literal sense, but by these is meant no doubt full feeding, or all that the patient can take care of in an assimilative manner.

For an account of various sanatoria in Europe and this country the recent work of Dr. S. A. Knopf, on "Prophylaxis and Treatment of Pulmonary Consumption," published by Blakiston's

Son & Co., is valuable and full of interest, and profitable reading to every physician who wants up-to-date information on this subject.

But what can be done for the advanced and far-advanced cases? The sanatoria of which we are speaking are designed for the incipient cases.

Besides giving a list of sanatoria, special hospitals, camps, etc., with descriptions, as they are to be found in this country, in Europe and elsewhere, Dr. Knopf, in his work alluded to above, gives a description of an ideal sanatorium. Due account and consideration are also given to aërotherapeutics, the rest cure, exercise, the use of the pneumatic cabinet, hydrotherapeutics, personal hygiene, dress dietetic treatment, symptomatic treatment, etc., etc., the mere enumeration of which suggests their importance and usefulness. Every practitioner of whatever specialty ought to read this book, or one equally good, on this subject.

Dr. Trudeau, of Saranac Lake, N. Y., speaking of the treatment and its results in the sanatorium at that place, says: "Of this so called advanced class 11 per cent recovered, while none of the far-advanced. Of the incipient 68 per cent recovered."

These more advanced and for the most part hopeless cases are beseeching the physician to relieve their distressing symptoms. Their fevers, the result of tubercular toxemia and associated bacteria, their sweatings, their diarrhœas, their coughs, their anorexias, etc., call imperatively for relief or palliation, and often severely tax the physician's resources.

No remedy has the confidence of the profession so much as creosote by inhalation or internal use, not that by it Koch's bacilli can be destroyed, but rather for its influence against the other bacteria and their toxins, and for its stomachic effects.

Hydrotherapy, fresh air, sunshine and rest furnish good evidence of their value in these cases.

Notwithstanding, as above shown, spontaneous recoveries have taken place, and cures have been effected, yet we are seeking better things, and need greater facilities. No one can reasonably expect to effect many cures if patients are left in their homes under their own management or that of their friends. The reasons are obvious.

Take a case, in illustration of the dilemma in which the physician often finds himself placed: A young man with a family, holding a very good position as clerk, who, it may be, has saved something from his earnings, or who mayhap consumes his income as it comes to him month by month, with little or nothing left over, comes to consult you in regard to a cough that troubles him some, and is persistent, or it may be some stomach derangement, a tired feeling, loss of weight and strength, scarcely mentioning a slight cough or hacking on going to bed at night or on arising in the morning. It does not require much time, as the history of the case is unfolded to you, as you proceed with the physical examination, to convince you of the gravity of the situation. The patient may not even suspect it, but you feel morally certain, under existing circumstances, in a year, more or less, he will become incapacitated for his work, his place will be filled by some one else, and a decline, more or less rapid, will terminate in death.

Now, what are you going to do? What can you do?

There are at least two courses open to you: (1) Without giving utterance to your opinions, or a statement of your diagnosis, or even permitting your impressions to materialize into definite and clear judgments, unwilling to be the bearer of bad news, you may prescribe and give such directions as will quite likely be followed by a relief of the symptoms and a degree of improvement, and you may permit the patient to leave your office inspired with the hope that is little short of an assurance that he will soon be all right—but I need not follow the history of a case of this class.

Or (2), you may, after your own manner, open up to your patient in the clear light of your good knowledge, his case fully, its nature, its dangers, and the best course to be pursued in order to obtain the best results. Only in this way can you have in the management of the case the necessary coöperation of the patient.

To the physician who feels that he is helpless in the presence of this fell destroyer the first-named course is the logical procedure. To the physician who is convinced of the curability of the disease the second, or a similar course is imperative.

But granting that there is a full understanding between the physician and the patient, and that the latter is ready heartily to coöperate with the former, what is to be done? What advice is to be given, and how can the physician be assured that it will be properly and faithfully carried out? Ah, there is the rub! There is no money with which to send him on the very doubtful quest of health to other countries. If he has the money to pay for advice and medicines he has not the facilities and incentives at home, where, had he all these, the cares and anxieties of his family would outweigh them all, and eventually overwhelm him. In view of all these things, he would most likely return to his labors, work as long as he has the strength, and then return home and finish out those most melancholly of days, the last of the consumptive. Such an issue is always pitiful, but what is worse, is becoming culpable.

The thing that is needed to relieve these cases, and the only thing that will avail, is the sanatorium above mentioned. There should be one or more in the vicinity of every centre of a considerable population, maintained at public expense, or by private munificence, for those without means. The well-to-do could, and ought to pay.

No longer, before a body of medical men, is argument needed to enforce the above proposition, or so it seems to the writer. If otherwise let it be promptly set forth. But with the lay public it is different. They are easily enough affected by an alarm cry of danger, and are moved to observe, in some degree, the coarser forms of prophylaxis, but, they are not ready to appreciate the need, and to provide the means necessary for the restorative treatment of these cases. The demand is upon us, and it is not only reasonable and humane, but it is also profitable, because it will restore to productive labor a large percentage of these cases.

In conclusion, I desire to make a suggestion, which doubtless has occurred to others who are now present, and may have been more fully considered, by some, but I hope it may receive from this able society such consideration as shall give it an impetus that will secure its realization. It is this: That a special hospital or sanatorium of the kind now under consideration be built in the neighborhood of the cities of Minneapolis and St. Paul on some suitable site, and I am sure there will be little difficulty in finding one, for the treatment of incipient cases of pulmonary tuberculosis, and in connection therewith a hospital for advanced and hopeless cases. It may not be necessary, before medical men, to dwell upon the needs or the propriety of such a movement, but it is different with tax-payers and people generally. They are yet to be educated a good deal in this matter. It is our prerogative as it is our duty to perform this philanthropic service. The reasons and arguments will readily suggest themselves. The bugaboo of expense ought, without great difficulty, to disappear for philanthropic and utilitarian reasons. The healthiness of climate, invigorating atmosphere, sunny days, dryness of soil, indeed nearly all the desiderata are at hand. Other countries and other states are moving in this great work, and it is not like our great state to be behind in such work. Might not the Hennepin County Medical Society express itself anent this suggestion, or even go so far as to put the matter into the hands of a special committee who shall more fully consider the matter, in the way of looking around for a suitable site, initiating ways and means, and outlining plans. I believe no great or insurmountable difficulties will be met in making proper efforts to bring this about, if put forth wisely and energetically.

DISCUSSION.

Reported by F. A. Knights, M. D., Secretary.

Dr. J. W. Bell opened the discussion. He considered the disease curable only during the first stage—stage of infiltration. Quoted Trudeau, in statement that 73 per cent of early cases recover in sanatoria. Little is to be hoped from treatment after the first stage. "Pretubercular stage" is an indefinite term, equivalent, perhaps to "stage of incubation." It does not include predisposition. Difficulty in early diagnosis arises from the fact that cases are not alike. Some are overlooked as neurasthenic, others as anemics or dyspeptics. Valuable early signs are: Temperature, increased rate and low tension of pulse. Hemorrhage sometimes comes early. Loss of weight, usually slight and easily overlooked. Loss of strength. Dryness and harshness of hair. Dilitation of pupils. Several thorough physical examinations should be made, using the X-ray if necessary. Palpation aids but slightly. Percussion—dullness is not the first sign, rather tympanitic sound, dullness following soon after. There is normally slight dullness at right apex. Auscultation is the most important method of examination. Evidence of disease is to be found posteriorly as often as anteriorly, and occurs as changes in breath-sounds or as räles, localized cripitant or sub-cripitant. Breath sounds give increased pitch in expiration. Temperature should be taken three to five times daily. Sputum should be carefully examined, though often weeks or months may pass before sputum can be secured. Climate is important in treatment, but there should be and probably will be sanatoria near to every city. A crusade will probably be necessary to secure the establishment of public institutions and this society might well be the first to begin the agitation.

Dr. C. H. Hunter: It is useless to attempt to kill the germs of tuberculosis within the body. We must treat the body itself. Treatment can be carried out much better in institutions than in homes. Reason and evidence both show desirability of sanatoria. Such might be located in Northern Minnesota, about Cass Lake or at Bemidji. The plan is practical, but state aid should not be asked.

Dr. G. D. Head: There is no tubercular diathesis. What has been called so is merely malnutrition or poor development. Tuberculosis may be merely a matter of dosage of bacilli. Can be induced in perfectly healthy animals, if dosage is large enough. It is many times latent from infancy. Normal mucous membrane is not sufficient protection.

Dr. L. W. Day: The symptoms given as those of the early stage are not definite. There is no apparent anemia in tuberculosis. The pupils are dilated in neurasthenia. Temperature is present in auto-intoxication. There are no early signs detectable that are pathognomonic.

Dr. Jakob Hvoslef: The axillary glands may be found swollen as an early sign in many cases. This swelling may accompany that of the mediastinal glands which we cannot detect.

Dr. A. T. Mann: Early infection occurs in the apex of the lower lobes as point of greatest frequency after the apex of upper lobes. As an early sign prolonged expiration is next to tympanitic note, dullness next. A little later a quick breath following a slight expulsive cough develops räles when ordinary breathing does not.

Dr. C. A. Kelsey: Takes issue with Dr. Hunter on the question of state aid. There are many industrious poor who cannot bear the expense of a long sickness at home, whether fatal or not, and they should be cared for and given a chance to live. Hopes for a motion looking toward securing state aid to be made tonight.

Dr. H. B. Sweetser: The Adirondack sanatoria are much better because far from New York. Patients recover better away from home, especially in pine forests. Institutions should be located at some distance from cities. Leech and Cass lakes are desirable locations.

Dr. J. H. Stuart in closing: A pre-tubercular stage should be recognized and more stress be laid on predisposition. Many families are predisposed. There is a condition of soil of more importance than seed. Sanatoria need not be located in wild country nor among pine trees. Would have them as near the city as possible. A protected southern exposure only is required and is better than shore of lake. Pure air and sunshine are the requisites.

In accordance with the suggestion contained in Dr. Stuart's paper, and upon motion, which was unanimously carried, the president of the society, Dr. A. W. Abbott, appointed the following as a committee to investigate and make report thereon: Dr. J. H. Stuart, chairman; Dr. J. W. Bell; and Dr. R. J. Hill.

Current Gleanings.

TUBERCULOUS LESIONS FROM A CLINICAL POINT OF VIEW.

(Abstracted by the Medical Record from the British Medical Journal, Sept. 15, 1900.)

Edmund Owen, in his address before the Canadian Medical Association, stated that there are three important facts of which the public must be made conscious: first, that the disease is communicable; second, that it is preventable; and third, that it is curable. Tuberculosis is not of the intractable nature it was formerly considered to be. At the end of the nineteenth century it is somewhat unusual for a patient with any surgical affection to be allowed the opportunity of showing what he can do without submitting himself to operation. The following disconnected statements are based upon clinical observation: (1) Chronic inflammaton of a joint in a child or young person is always tuberculous—except in those very rare cases in which it is due to hereditary syphilis or osteoarthritis. (2) Tuberculous inflammation may completely destroy a joint, and then leave it solidly and soundly synostosed, without the surrounding tissues or the skin having been implicated. (3) If tuberculous granulation tissue breaks down into a fluid, that fluid is not pus, and the collection is not, properly speaking, an abscess—unless, by bad fortune, or by worse surgery, it has become infected by septic micro-organisms. (4) The fluid collection is not to be treated as an abscess—by incision and drainage, that is—but is to be opened and emptied, and scraped and cleansed of its unhealthy lining of granulation tissue. Then the wound in the skin is to be completely closed by sutures; firm pressure is to be evenly applied, and the part is to be kept absolutely at rest. The success attending this line of treatment leaves, as a rule, little to be desired, and for this important advance in practical surgery we are chiefly indebted to the patient researches of our friends with the smock-frocks and the guinea-pigs. (5) Iodoform is of no peculiar value in the treatment of tuberculous lesions. The author has long since discarded it, and has not noticed any falling off in the results of his practice in consequence. Iodoform is an irritant and a poison; it is apt to be septic, as germs can grow upon it, but Mr. Owen said he had no knowledge of the truth of the statement that mushrooms have actually been cultivated on it. Other questions discussed are "the forcible straightening of carious spines" and "the treatment of vertebral caries."

(Abstracted by the Medical Record from Zeitschrift f. Tuberk. u. Heilstätt., vol. i., No. 4, 1900.)

The Treatment of Pulmonary Tuberculosis and Diseases of the Respiratory Passages with Organo-Toxin.—De Lannoise applies this name to an attenuated toxin obtained by keeping bouillon cultures of tubercle bacilli at a temperature of 98° to 100° F. for a period of from two to four months. Treated in this way the product is harmless when injected into men or animals, and exercises a very favorable effect on the course of tuberculous disease. After a few injections respiration becomes more free and deep, the cough and expectoration are increased, the expectoration losing its mucopurulent character, becoming first yellowish, then white, and finally disappearing entirely. Cavities already present apparently cicatrize, the temperature drops and stays down, and the digestive and renal functions are greately improved. The rationale of this action is not entirely clear; apparently it is not the bacillus but the body cell which is acted on and made more resistant to the pathogenic agent.

The Significance of Heredity in Pulmonary Tuberculosis.—F. Reiche, basing his conclusions on statistics obtained by examination of over one thousand cases, believes that the prevalent idea that a family tendency to tuberculosis may exist, and that individuals may from birth be predisposed to this infection, is erroneous. While it is undoubtedly true that oftentimes the offspring of markedly phthisical parents is lacking in stamina and resisting-power, just as is the case in the children of those cachetic from other reasons, e.g., cancer, nephritis, or cirrhosis, yet in the majority of instances the child acquires the disease, which may lie dormant for years, by direct infection from the diseased parent. This is an encouraging view, for it permits the hope that with increasing care in the prophylaxis such infections may be greatly diminished and the dread of a hereditary taint be robbed of much of its terror.

The Marriage of Phthisical Patients.—C. Gerhardt says that on the one hand it has been proposed to make the marriage of tuberculous subjects a legal offence, and on the other it has been stated that the better care, greater comfort, more regular habits, and mental quietude attending the married state more than counterbalance the dangers. He himself is of the opinion that the risks are quite as grave as usually considered, and while exceptionally favorable cases are to be found it is still the physician's duty to warn the public most emphatically of the dangers accompanying such unions. In general it should be demanded of a tuberculous individual that before matrimony he should have been perfectly healthy for at least a year.

The Educational and Legislative Control of Tuberculosis.—Charles Denison ascribes a large part of the morbidity from tuberculosis to deficient ventilation in dwellings Owing to the rebreathing of devitalized air the lungs grow inactive, and there is gradual clogging of out-of-the-way air cells with the products of combustion, and a damaging form of local auto-intoxication follows. Legislation should provide for each individual in a living apartment fifteen hundred cubic feet of air space and a minimum ventilation of two thousand feet per hour per person. Courses in ventilation should be instituted in institutions of learning, and governmental commissions be appointed properly to investigate and study the subject.

Experimental Contributions to the Understanding of Tuberculous Toxæmia.—E. Maragliano, by injecting the blood of tuberculous individuals prepared in various ways and precipitates obtained from their urine into guinea-pigs and rabbits was able to determine that; (1) patients giving clinical evidence of toxæmia had in their blood (injected as such, in the form of a glycerin extract or as blood serum), and also in their urine, substances which when injected into healthy or tuberculous animals produced toxic symptoms; (2) that this intoxication resembled that produced by tuberculin; (3) that this toxic property could be neutralized by a simultaneous injection of tubercle antitoxin.

The Diagnostic Value of Koch's Tuberculin.—Albert Fraenkel says that the reaction against the use of this agent, which was the natural result when it was found that not only was it useless as a therapeutic agent, but also that even as a means of diagnosis its employment was not free from danger, has gone too far, and that properly and carefully administered it gives valuable information with very little risk. A large portion of the undesirable by-effects and sequelæ attributed to the reagent are due solely to the unnecessarily large doses which it has been customary to give.

Tuberculous Gastric Ulcer in Connection with a Case Ending Fatally.—Theodor Struppler's case presented the rare picture of a tuberculous ulcer which almost entirely surrounded the pylorus and perforated, inducing a fatal secondary peritonitis. The patient was a youth aged eighteen years, who was also suffering from pulmonary tuberculosis and tuberculous enteritis. The author believes that in this case the infection was due to the swallowing of sputum containing bacilli.

(Same from Archives Generales de Medecine, September, 1900.)

The Psychology of Phthisis.—Maurice Letulle believes that certain psychical and intellectual changes occur during the course of this disease. In the early stages there is a species of hyperexcitability in the mental state, a feverish desire for occupation, change, and society, followed later by mental lassitude and indolence, a veritable intellectual neurasthenia. As to the moral state of the patients, some retain their strength and beauty of character through their long illness until the end, others undergo a species of psychic irritability. Melancholy is the rule, with an indifference which is plainly shown in the facial expression. Egotism is apt to follow, tuberculosis being of all diseases the one most conducive to the "contemplation of self"—"Myself, always myself, myself alone, whatever happen." All affection and every service are accepted as a right. Jealousy is apt to be marked, rendering the lives of those who care for the patient hard in the extreme. The consumptive is impatient of every little discomfort, and unforgiving of neglect. For the treatment of these sad changes in character no amount of reasoning will have one-hundredth part of the effect that is produced by warm sunshine, the light of warm countries, flowers with their sweet perfume, a view of the sea, and beautiful scenery of all kinds.

TUBERCULOSIS AND TUBERCULOUS ULCERS OF THE STOMACH AND OTHER ABDOMINAL ORGANS.

(The Journal of Tuberculosis.)

That tuberculous affections of the stomach occur with any degree of frequency, as Petruschky seems to imply, is an opinion which is nullified by the teachings of pathological anatomy. Ordinarily many hundred sections can be made without once encountering any tuberculous ulcer whatever within the stomach. The secondary localization of the disease in the gastric mucosa is of such infrequent occurrence that

Simmonds has found it but eight times in 2,000 autopsies; and as for a primary localization the eye of no pathologist has yet beheld one.

The striking resistance offered by the gastric mucosa to this sort of infection is the more remarkable when we bear in mind the readiness with which the intestine succumbs to the same process. We know that the gastric juice does not destroy the bacilli, even after long exposure. Whether this is true of pathologically altered gastric juice can only be determined after studying the later fluid when tuberculous ulcers are present in the stomach.

Simmonds (Muench. Med. Wochen) presents a case which appears to bear out the view that tuberculous ulcers occur more readily in a stomach the natural secretion of which is altered. The patient, a man, aged forty, died of pulmonary and intestinal tuberculosis. Near the pylorus occurred a small, firm, carcinomatous nodule, which had produced a considerable narrowing of the lumen of the stomach, the organ in general being much dilated. Scattered over the gastric mucosa appeared numerous small tuberculous ulcers. The presumption is that the alteration in the secretion, especially in regard to the diminution in the amounts of hydrochloric acid, had favored the infection of the stomach by the bacillus. Such an association as cancer and tuberculosis, occurring in the stomach, is very surprising.

Simmonds also showed to the Congress other cases of his collection of tuberculous gastric ulcer. The patients had succumbed to pulmonary and intestinal tuberculosis. These lesions of the stomach were single or multiple, very small or of any size up to a dime, seated usually in the pyloric portion, round in shape, and in character resembling the familiar tuberculous ulcer of the intestine. Simmonds has never seen either perforation or the arrosion of a large vessel follow, but he has observed, as a result of extension of the process, a great ulceration, measuring no less than 10 cm. x 20 cm. The diagnosis was only made after prolonged histological investigation.

In all the author's cases, including the last named, symptoms referable to the stomach had not been in evidence during the patient's life. In the case in which the stomach was so extensively ulcerated the patient was first under treatment for fistula in ano. He also had sooner or later symptoms referable to the lungs, pleura, and intestines, but never any evidence of gastric implication. It therefore appears that gastric tuberculosis is one of those affections which cannot be diagnosticated intra vitam.

It must not be forgotten that ordinary simple round gastric ulcer may complicate phthisis; and that in such cases—the author has recently seen two examples—the stomachic symptoms are very much in evidence. In the cases referred to, hæmatemesis and cardialgia were present to a marked extent. As this association of phthisis and simple round ulcer is not rare, we must bear in mind as a fundamental principle in diagnosis that when severe gastric symptoms supervene in a consumptive, we may suspect the presence of a simple, but not necessarily of a tuberculous, ulcus ventriculi. To use the tuberculin reaction under such circumstances would seem to be entirely superfluous, for primary tuberculous ulcer of the stomach is not yet a pathological entity.

Before leaving this subject, it will be well to state that there is a form of tuberculosis of the gastric wall which so far from being rare is of frequent occurrence. This affection is hæmatogenous miliary tuberculosis, a condition not recognizable by the naked eye. This condition presupposes a chronic general tuberculosis. Notwithstanding its frequency, it was first fully described in 1898 by Welms. The tubercles occur in the substance of the mucosa, and most of the cases described have been in children. During the past year Simmonds has encountered four cases of this sort, and was able to detect the tubercles in the muscular coat of the stomach. As it has long been known that the serous layer of the stomach is readily implicated in hæmatogenous miliary tuberculosis (in company with other serosæ), we are, therefore, able to state that the entire thickness of the stomach wall may participate in this type of tuberculous infection. Clinically, this latter manifestation of disease has no status, because the patient succumbs long before the tubercle could become confluent and cause destructive lesions.

PRIMARY TUBERCULOSIS OF THE SPLEEN.

Bender has contributed an exhaustive article upon the subject of splenic tuberculosis for the Gaz. des Hospitaux.

Quenn and Baudet were the first to describe the primary localization, with an account of five cases, one of which was a personal observation. About as many more have been reported since the publication of this pioneer study. A survey of this material appears to show that there are two types of primary disease, to be distinguished as acute and chronic, although the former is represented only by a solitary case, that of Scharoldt. The patient was a man of twenty-five years of age, whose disease supervened suddenly, a violent chill having been followed by high fever and profuse sweats. Great weakness soon became apparent, and intense headache was a leading symptom. Physical examination revealed the presence of a greatly enlarged spleen, but otherwise results were mostly negative. There was no localized pain or tenderness. The circulatory disturbances in the head were further manifested by cyanosis, epistaxis and delirium. Patient died in a state of typhoid exhaustion on the seventeenth day after admission. Autopsy revealed a greatly enlarged spleen full of disseminated miliary tubercles. There were absolutely no other granulations elsewhere in the body. This case then appears to have been an example of acute miliary tuberculosis of the ordinary type, but limited to the spleen.

Chronic primary tuberculosis of the spleen has thus far been almost entirely confined to the third and fourth decennial periods of life. Autopsies reveal two pathological types, viz.: the sclero-caseous and hæmorrhagico-necrotic. The former is considerably more frequent than the latter, and is characterized by a sclerotic induration of the organ with areas of caseation. The tumefaction of the spleen has usually been very great. The hæmorrhagico-necrotic form has thus far been represented by a single case, that of Achard and Castaigne. The spleen of this patient was greatly enlarged; there was no evidence of sclerosis; and the organ was strewn with numerous foci of hæmorrhage, consisting purely of unorganized fibrin. A few of Koch's bacilli were discovered in these foci.

An analysis of cases with regard to the behavior of the peritoneum shows that the latter may remain unaffected; or become the seat of simple localized inflammation, with production of ascites or adhesions; finally it may present tuberculous granulations from outward extension of the process beneath.

The neighboring lymph-ganglia of the hilus naturally participate. While the majority of these cases were not subjected to surgical intervention, Hayden performed a splenectomy for primary tuberculosis in 1898, while a year earlier Bland Sutton operated upon a patient with the same affection, but the case has not yet been reported.

TUBERCULOSIS OF THE UTERUS.

Michaelis (Hegar's Beitraege zur Geburtshilfe und Gynækologie, 1900, III., Heft 1,) speaks of the ever increasing importance of this subject; and after a brief historical resume—in which the various advances in our knowledge of cervical tuberculosis are especially noted—proceeds to report a case of localization of the disease in the portio vaginalis which was at first diagnosticated as a papillary cancroid. After first ablating the tumor proper with the Paquelin, the entire uterus was removed per vaginam. Although ovaries and tubes were fixed by adhesions, they were left in situ on account of patient's youth.

The uterus was subjected to a careful study. The mucosa of the corpus appeared quite normal to the naked eye. The lining of the cervix, however, together with the os externum, was studded with papillary irregularities which completely filled the latter and projecting into the vagina for the space of 1 cm., presented the appearance of a cauliflower-like neoplasm. The normal pavement epithelium of the portio vaginalis was for a certain area replaced by tuberculous granulation-tissue. The glands of the cervix had undergone proliferation and metaplasia, so that they represented a solid mass of epithelioid cells invested by a wall of leucocytes. Traced upwards into the uterus the process appeared to terminate gradually at the internal os. The epithelial metaplasia much resembled that which accompanies carcinoma. A chronic mucopurulent catarrh was associated with the affection of the cervix, due, according to the author, to the original penetration of the bacilli through the mucosa. The process in toto consisted in the substitution of tuberculous granulation-tissue for the mucosa, glands and interglandular tissue. Caseation was nowhere found.

This type of disease agrees entirely with that described by von Franque, Orthmann and Alterthum, which also affects the corpus uteri in some cases. The individual case corresponds to Kaufmann's extremely rare example of "primary isolated cervical tuberculosis." Michaelis's patient continues in perfect health three and a half years after the date of the operation, thereby indicating the primary and localized character of the affection.

A second case described by the author was an example of another very rare condition— a tuberculous uterine polypus. This growth projected into the vagina and was of the size of a chestnut. It was removed for an ordinary mucous polyp, but investigation showed numerous tubercle and giant-cells in its interior, while Koch's bacilli were also present in great numbers. After removing the polyp the uterus was curetted and examination of the scrapings also revealed evidences of tuberculosis. On account of the patient's general condition, and evidences of probable pulmonary and peritoneal tuberculosis, this case was deemed to be an example of ordinary descending uterine tuberculosis, infection having been propagated from the peritoneum along the tubes and so to the cavum uteri.

Similar cases of tuberculous polyp have been reported by Zahn and Madlener.

A third personal case related by the author was likewise an example of descending uterine tuberculosis; the cervix appeared to bear the brunt of the infection, being greatly thickened and covered with individual ulcers.

It appears possible to cure a uterine tuberculosis by early curettage, but this interference is only palliative unless the specific lesions are all under full control, so that any progress of the disease can be immediately met by radical operation.

THE TREATMENT OF HEADACHES IN THE PHTHISICAL.

Owing to the irregular elevations of the body temperature so characteristic of pulmonary tuberculosis, headache is not an infrequent symptom of phthisical patients. For the control of these neuralgias it is especially important that a remedy be selected which exerts no weakening action upon the heart and circulation, since these patients are very susceptible to drugs that have a depressing effect upon the vasomotor centers. An eligible remedy for these attacks of headache is hemicranin, which combines sedative and analgesic qualities with a stimulating action upon the circulatory apparatus. From the clinical evidence published it appears that hemicranin alleviates the pains by its direct action upon the nervous system, and by its regulating influence upon the circulation. Owing to its eliminating effect it also promotes the excretion of the products of imperfect metabolism and of those toxic substances which are responsible in many instances for the development of neuralgias. Moreover, in phthisical cases this drug produces a gentle reduction of temperature which further contributes to its curative effect. The dose varies from five to ten grains on the average, and, although larger doses may be administered owing to the innocuousness of the remedy, these are rarely required. ,

A THEORY OF FAT FOODS FOR TUBERCULOSIS.

Dr. A. N. Bell, President of the American Congress of Tuberculosis, in his opening address, said that the area exempt from tuberculosis is so small as to justify the conclusion that no place inhabitable by man is exempt, and that tubercle bacilli are universally distributed. They are proportionally active with the density of population, the prevalence of conditions favorable to their reception and tolerance, and deficient power of resistance. The accessory conditions are for the most part implied in what was said about foul soil, foul air, poor diet, etc.

Some writers are wont to refer to Iceland and some other Arctic and sub-Arctic regions, whose inhabitants rarely or never have consumption, though they commonly sleep in stifling huts, reeking with offensive emanations, and are but rarely or never cleaned. Moreover, the denizens of such huts at night, habitually expose themselves in the daytime to the worst possible conditions of weather. Their exemption from tuberculosis is commonly attributed to the extreme cold of such regions, and the erroneous inference drawn that outdoor exposure in frigid climates is commendable for consumptives.

The food of these exempt communities is almost wholly of an animal character, the fattest portions, and "toodnoo," a kind of butter made of the separated fat of reindeer, of which they eat enormous amounts. •

Moreover, besides their power of resistence to the tubercle bacillus, the Esquimaux and other inhabitants of the Arctic regions who live on such food, are possessed of gigantic muscular powers. They are able to lift and carry burdens twice as heavy as those which the seamen visiting them are able to carry.

In similar regions where the inhabitants or immigrants do not so live, tuberculosis is no less, indeed, among some of them it is much more, rife than it is among communities in temperate latitudes.

The exemption from tuberculosis in such circumstances is, in my judgment, properly attributable to the potentiality of the fatty food. My conclusion in this regard is fortified by many years' observation of the liability to consumption of peoples collectively, families and individuals, more or less proportional to their abstinence from fatty foods. The most prominent example of which I have never lost sight of from youth up —the negro race in America.

I began my professional life among them when they were slaves and were always supplied with an abundance of "hog and hominy," not by any means restricted to these articles, but pork or bacon was a standing portion of at least one daily meal. Consumption among them was relatively rare.

My observation in this respect was not singular, but in accord with all other medical observers of the time, of whom I have knowledge. Conversely, it seems hardly necessary to invite attention—so common is the prevalence of consumption among the same people now under their changed conditions with regard to diet. "Hog," at least, is notable by its absence from the daily fare of most of them and no other fat meat has taken its place; and consumption among them is more than twice as great.

The same observation extends to smaller communities, families and individuals. Cosumption is most prevalent among those who are stinted or who stint themselves of "bacon" and "butter." I mention these as ideal and the most digestible of fat foods; others are commendable.

Whole volumes and many essays have been published on food for consumptives, but nothing of consequence on food prevention of consumption.

My purpose in the citations I have made is to intensify attention to food in its preventive aspect. Everybody has learned, when it is unfortunately, in most cases, too late, that cod liver oil is good for consumptives, but few seem to have learned that food of the same character as cod liver oil, suitable for the table, is preventive of consumption.

In the whole course of my professional observation, now covering a period of nearly sixty years, I have never known a family nor an individual that was brought up on a liberal supply of butter and bacon that became tuberculous. Moreover, such food fortifies the system against other diseases as well as consumption. But this is no occasion for other subjects.—The Tubercle.

THE TREATMENT OF CONSUMPTION AT HOME.

(Abstracted by the Medical Record from the Medical News, Oct. 6, 1900.)

Joseph Eichberg states that all therapeutists in the pursuit of the specific idea seem to have lost sight of the idea that pulmonary tuberculosis in the only forms which are amenable to treatment, i. e., in its chronic forms, is always either a mixed infection or a process so limited in its distribution that natural safeguards will surround the tuberculous area with an investing capsule and thus make it harmless. The treatment of consumption may be properly classified as the specific, the climatic, the dietetic, and hygienic. It is fair to presume that the search for specifics is not yet done, nor likely to be given up, but the patient's safety probably does not lie in that direction. The most noteworthy feature in the reports of recent studies is the uniformity of success under climatic conditions the most diverse. We may safely feel that we are not of necessity bound to any climate or altitude. The patient must live out-of-doors. Next to good air we place good food, and of this there must be an abundance. The patient should be steadily encouraged to eat more than he wants. Cream and butter should be introduced into as many dishes as possible. The third feature is good rest. It is a good rule for the patient to take no exercise until there is no fever. All sources of excitement and worry should be eliminated. The patient should sleep as much as he chooses. The fourth factor is good cheer. The moral influences surrounding the patient are all-important. Medicines from the shop really do not enter as a necessary part into this plan of treatment. The various symptoms may, however, be treated by the well-known remedies. The ordinary hygienic rules should be carefully observed. All cases, even the most desperate, are suitable for this home treatment.

Physicians will now admonish their patients never to cross their legs, even though this alleged pernicious habit may be one of the most comfortable attitudes to assume, inasmuch as it seems to brace the body in an automatic upright position. A surgeon across the waves has but recently suggested that appendicitis is caused by the habit of crossing the legs, which restricts the action of the digestive apparatus. The appendix is only loosely attached to the cecum, and there is always some half-digested food in the cecal bag. By crossing the legs there is liability that the undigested food may pass into the vermiform appendix and set up an inflammation. In a few hours pathological processes set in, and an attack of appendicitis is developed.

Original Articles.

AN UNUSUAL ACCIDENT IN INTUBATION OF THE LARYNX.

By H. A. Beaudoux, M. D., Fargo, N. D.

I was called by 'phone to visit a neighboring city two months ago to consult over a case of "throat trouble." Being unable to get more explanation than this, I took with me what was necessary to make a Rhino-Laryngological examination, and set off for my destination. Great was my surprise when, after the usual introduction to the family, I was conducted to a bedroom where a child five years old lay quietly in her bed, and while pointing to the patient the family surgeon handed me an O'Dwyer's retractor, saying, "She has a tube in her throat, and we (referring to another local surgeon) have been trying to remove it for four days and cannot get it out, so we have sent for you." This was my first true knowledge of the patient's real trouble .

A laryngological examination revealed the larynx badly inflamed with some protrusion of the false cords almost to approximation, the right cord being swollen fully beyond the median line. It was with great difficulty that anything below these could be detected, although the little sufferer was more than patient with us. The posterior portion of the left cord could be seen, but no glittering body could I detect thereabout. After several unsatisfactory attempts to enter the larynx I decided to allow the inflammation to subside before further examination or attempts to find the tube. The patient was now over the diphtheritic infection, was breathing well and was generally improving from her recent sickness. When I returned six days later the condition was much improved; the larynx was fully exposed to the laryngoscope, and to my surprise I found the tube engaged below the cords with its head ducked under the apex of the cords, slightly tipped to the right, a part of its lumen only being exposed to view.

With care and caution I made my first attempt to engage the tube only to find the tube fast and solidly engaged in its strange position. After more than twenty-five repeated attempts which grew more fearless each time, giving the patient enough rest to prevent exhaustion, I succeeded by a forceful and desperate attempt, making what pressure we thought would aid us from without, in engaging the lumen and removing the tube. We had been working for two hours and three quarters. The child, almost exhausted, sank into a quiet sleep, and five days later was up and well, a result which might not have been so readily obtained had we performed the contemplated tracheotomy. On examining the tube I found its lower edges much sharper than those of my own set or others I had ever seen. While the lumen seemed somewhat larger at this end, it may have accounted for the sharper edges that we usually see on similar tubes.

From the position of the tube and the force that I was able to use without driving it into the lower portion of the trachea, I am of the opinion that either when it was introduced or while the surgeons made their repeated attempts to extract it, the lower edge was engaged into the false membrane, and later this friction and local inflammation into the lining membrane of the trachea. This condition alone would seem possible to retain a tube of that size in the trachea of a five-year child, and in that position.

Intubation is a simple thing to do, having the patient in position, the head held firmly by an assistant and the mouth gagged in place, I seldom fail to introduce the tube the first time I attempt to do so. Violence is not necessary to intubate, and if well selected as regard to age, the tube cannot be easily forced below the cords without using unnecessary efforts. Whether the tube was forced through when introduced or during the attempts made to remove it previous to my seeing the case, I have not questioned. The fact that it was in the place where I found it, is sufficient to guard against undue violence, as it is not required either to place the tube in position or to remove it. I am in the habit of using a large black linen thread doubled twice upon itself and then tied to the tube with a slip knot. I then make another knot including the four threads next to the tube and another at such distance from the tube that when the tube is in place it will rest in the buccal cavity. Each fourth of my skein is then separated and two of the individual threads placed between two teeth if possible. The chances are that the knot will not be bitten off, as I omitted to state it had been in the above case, although the tape used was much stronger and larger than the one I make with my linen threads. Should one or two be bitten off, the chances are good that one will hold and access to the tube be made much easier, especially if the tube should be a little small for the age of the patient, and the next size too large. I never have had all my threads bitten off since I adopted this plan. Within two weeks after seeing this case I was called to intubate a child two and one half years old, and another three and one half, both objecting seriously to the procedure, but in neither case were there any of the threads cut off, and the tubes were removed with ease by means of the threads and retractor. I do not find that the former causes any annoyance to the patient other than a slight irritation at the corner of the mouth. This can be relieved by changing to the other side or using a little carbolized vaseline as soon as any irritation is noted.

*THE PHYSICIAN'S INFLUENCE IN RE VACATION SCHOOLS.

By Helen C. Putnam, M. D., Providence, R. I.

Friends of free education are discussing, in current literature and social organizations, the present insufficiency of hitherto existing school methods of training for citizenship. They recognize the possibility of a cleaner government by a wiser people for a happier people. They recognize, too, that the training for self-government and happiness has been in an autocracy where the teacher's will and the printed word were law; where mental powers were cultivated through the minute exercise of tiny neuro-muscular mechanisms of eye and finger upon small, black characters on white paper; where memorizing, recitation and other feats accomplished with words and figures won the prizes.

Up to fifty years ago this system during the winter semester was effectually supplemented in summer by the industries of country home life, the apprentice system of learning trades, and—this of equal importance—abundant opportunity, in woods and fields and village life, for free play, wholesome adventure and communion with nature. The majority of children thus received a comparatively symmetrical mental, moral, physical, and social training, resulting in fairly well-balanced character and useful citizenship. Inventions following upon scientific discovery have greatly altered occupations and ways of living. Population is becoming chiefly municipal and wealth concentrated in the hands of the few. Problems not less difficult than those our forefathers dealt with are before the people. Public schools must readjust themselves to these altered conditions and new demands.

There are none better situated to understand the insufficiency of the adult's preparation for health and happiess than well-educated physicians and, in this readjustment of school methods, the influence of medical specialists of liberal culture is to be hoped for. The appointment of school physicians as adjuncts to boards of health for the detection of contagious diseases and possibly evident physical defects interfering with school work is a step in the right direction; but a short step. Much more could be accomplished with the same amount of money if it were used for two or three large salaries, instead of ten to thirty small ones, to secure expert professional services from physicians who have been not only general practitioners, and skillful in pediatrics (as few of these numerous appointees are), but who, in addition, have qualified as school specialists by study of schoolhouses, ventilation, heating and furnishings; of physical training, including play; of pedagogy and its problems in psychology, including child-study; capable of instructing teachers and occasionally perhaps the older children (the latter no common accomplishment) in

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*Read before the American Academy of Medicine, Atlantic City, June 2, 1900.

certain fundamentals of hygiene, personal, household and municipal, only twelve per cent. having opportunity for such instruction beyond the grammar grade. This physician could give valuable aid, probably unobtainable from any other school officials, in mothers' or parents' clubs that bid fair to become a department of public education, as the practical solution of the difficulty long experienced in securing intelligent cooperation between home and school. Sweden is the country most often quoted when this subject is discussed, and in Sweden the success of school physicians is due to the fact that they are specialists somewhat as outlined. The twentieth century promises to be an era of experts, with better primary education at the other extreme.

The vacation school movement originated in the desire of citizens to provide other influences than those of the worst streets for children living on those streets during July and August, popular observation, school reports and statistics of juvenile arrests showing this interim in school occupation to be injurious mentally, morally and physically. Other phases of this work are "fresh air parties" and "country weeks," summer camps and farms; also "summer playgrounds" that have developed into vacation schools as it became apparent that games have a strongly educative influence, and that the play spirit carried into certain forms of instruction increases the attractiveness of playgrounds.

Vacation schools (the playground continuing as a less highly organized and less expensive department of such schools) have within six years opened by private initiative in over twenty cities, in Philadelphia and New York being under municipal conduct—the final object of all effort elsewhere. They are for children under sixteen years of age, and continue six weeks in July and August with morning sessions only. The attendance is voluntary, therefore, to be successful, their methods must be popular. The best results do not follow training "across the grain" after artificial methods. It is more than suspected that children in general and the individual child, also indicate lines of least resistance that educators should take advantage of as aids to fullest development. Play is the way of living of all young animals, their natural method of preparing for existence later. The majority of plays enjoyed by children require much hard work. Therefore the spirit of play (enjoyment) cunningly permeating vacation school curricula secures as regular attendance and faithful work as do truant laws, work, however, of a different character.

The design is to supplement public schools and to give these children certain essential advantages that parents of intelligence and means supply by their own preference through home environment. One chief present function of vacation schools, that time is demonstrating, is that of experiment stations, with a positive influence upon regular school methods and ideas. No books are used. The instruction is, briefly, according to the laboratory method.

To encourage muscular ability and accompanying executive qualities of mind (furnished by home environment one hundred years ago) manual training is prominent in the form of wood work, as carpentering, whittling, fret-sawing, chip-carving; or of constructive work with cardboard or flexible bands of iron; or of household arts, as cooking, care of rooms and of the sick, sewing, mending, embroidery. The use of a score of different tools, of varieties of wood and other materials, is fascinating to practically all children even when there exists a strong liking for books. Their natural creative instinct, the delight of seeing and owning the results of their labor, and enjoyment of occupations that permit free movement instead of exacting the quietness so irksome and unwholesome for them—all are utilized by the wise instructor for certain educational purposes. Manual dexterity is as great an advantage to professional men, with its accompanying mental qualities, as is book learning to the so-called "industrial classes." Such manual training will promote home thriftiness and decencies, both within and without the house, where the ability to drive a nail and take a stitch, and the mental executive bias thus nourished in education—instead of neglected—counts for much in making homes. Such training, combined with regular school work, recognized in the schools on an equality with the latter, must encourage the hand skill our times are suffering from lack of, thus lessening the overcrowded ranks of inefficient teachers, clerks, etc., eventually giving us a higher grade of material achievement, a more comfortable living. Of prime importance is the consideration that there must result a higher class of citizen because of certain mental and moral qualities that manual work cultivates in children. They can only be enumerated here. They are intelligent observation, practical judgment, executive ability and habit, accuracy, perseverance, and the ambition to produce honest and creditable results. We must recognize the great social need of such qualities as these, conspicuously in the poorer homes and by "wage earners."

To city children nature study is partial compensation for the great misfortune that their childhood cannot be passed in the freedom, beauty, and wholesome simplicity of country living. As the summer season dictates, this is the chief feature of vacation schools. Indoors flowers and other phenomena of the vegetable kingdom are studied from samples in the children's hands; aquaria, window boxes, pet animals, and museum specimens encourage habits of interested observation and powers of description. A school garden out of doors gives every child the supreme joy of troweling, planting, watering, and watching development under his own fostering care. The visiting insects and other animal life, weeds, varying conditions of soil and temperature, under educated oversight teach him the interdependence and harmony of natural laws. This is knowledge at first hand, the most lasting kind. Acquaintance with vines, shrubs, and flowering plants for making home attractive, encourages them to develop the possibilities of their own back yards and little corners of earth. School gardens in Germany, Russia, France, and Switzerland are numerous, and they are increasing in America. Educators begin to recognize, not only the immediate value of this garden work for both bodies and minds, but the political and social expediency of early interesting boys and girls in productive occupation. In countries where agriculture is the basis of much of their prosperity, free schools properly should cultivate intelligent interest in this direction, even in the mass of young children, with primary scientific instruction in more advanced grades, that our public schools may recruit the farm as well as office and shop, and that the people may have at least the rudiments of a culture that nature evidently intended, but of which accidents of a short-sighted civilization threaten to deprive them.

Excursions take place every week—a very efficient drawing card utilized to its fullest pedagogic possibilities. These peripatetic schools or classes, with special instructors, visit city parks, museums, art galleries, industrial establishments and points of local historic or scientific interest. The excursions most largely arranged for are into the country for nature study and sketching first, closing the event after lunch with free play and enjoyment. Although tens of thousands of children have been transported by boats and electric or steam cars, no accident to life or health has occurred. The numerous little groups into which the school is divided, each with a teacher, go to their several study grounds previously assigned, it may be a river path, a woodroad, a field-hedge or hillside, for their class work. "Bird day" is prepared for during the preceding week by handling and studying mounted specimens of birds native to that locality, learning their song and habits, and why this excursion must be in late afternoon hours and to a place of running water, trees and underbrush. They taste the hunter's intensity of enjoyment in the stealthy approach and quiet waiting, and the child's irrepressible delight when the game is found. Sympathetic acquaintance with habits and beauties of living creatures we trust may eventually supplant the primitive slaying instinct of the race. In corresponding fashion they have "insect," "rock," "beach," and "flower" days, when the objects studied in the class room are greeted in their habitat with the delight of welcoming old friends; or it may be a day to a well-equipped model farm.

To learn facts is not the only, nor, perhaps, the chief object of all this nature work. The child is inevitably forming tastes that will guide him in choice of recreations and occupations (at least in his leisure time.) That successful eight-hour day agitation may be a benefit, it concerns us all to encourage those extra free hours being given to objects not less wholesome than the former labor. Interest in country phenomena, love of its sounds and sights, simple ability to make a yard and house attractive, cultivated in the childish brain, must often influence home makers to choose suburban living in these days of cheap rapid transit and high city rent for cramped quarters. This movement more fully developed in schools, it is reasonable to believe, will materially help solve the tenement house problem for many thousands and encourage the tide of population to ebb countrywards.

Art and nature study are correlated in these summer programs. Accuracy of observation is increased by a water-color sketch. Foliage and fruit, mounted birds and butterflies, human models and finally landscapes are given them to reproduce in colors. Without seeing it one can hardly believe how much a skilful teacher can accomplish with children from eight to fifteen years of age in brush, outline and composition work and design, training to see apreciatively. To cultivate memory, or imagination, and to strengthen their understanding of language, a word picture may be read them for reproduction, of prehaps a moonrise on the ocean or of a harvest field; or a story is given them to illustrate. Decoration is introduced to them by applying their flower sketches to designs for book covers, wall-papers, etc., or geometric figures may be used, with the final object of forming tastes. On excursions it means more than the present event to call attention to the ripples, cloud shadows and varied craft upon the water, the outlines against the horizon, views on roadways and pictures made by groupings of trees and rocks, sunset glow and noonday haze. To many children these are the only opportunities of their lives to pass a country day in the companionship of an educated, refined and sympathetic friend. The novelty of the impressions renders them most vivid and lasting. We can only mention the fact that music also is utilized for its esthetic influences.

The advantages of outdoor gymnasia do not need demonstration to this audience. Imagine a wide-spreading American elm, with leafy shadows flitting over groups of children from hot city streets, who, under the guidance of an expert, are keenly delighting in their achievements on bars, ladders and swings. This I saw in one of the very few school yards where the city fathers have preserved a beautiful tree. About the gymnastic games following the apparatus work I would say a word. It is almost appalling to think that the last stronghold of children—their play—is being invaded and utilized for pedagogic purposes. The truth is that play and playgrounds are being municipalized out of the world. With no opportunity but ill-smelling streets and prison-like yards, with policemen and ordinances coercing active play into chiefly dodging out of sight, and into even criminal mischief, from the repressed play hunger of growing boys and girls, it has come to pass that city children are forgetting how to play and losing the vigor of body and character given by play. The recognition of this is behind the playground movement and must not be forgotten as school boards take up vacation work. We believe thoughtful citizens should be jealous for preserving genuine play in vacation schools.

Gymnastic games, devised for play, for exercise, for mind, and for character, have been adapted to the city conditions of small space and large numbers. Briefly characterized, they are competitive, to arouse interest and enjoyment; the competition is between groups, to encourage the spirit of co-operation as well; they require physical and mental force and are simple to execute. If too elaborate they will not be popular. The stimulation of laughter and fun, the muscular and circulatory invigoration accompanying these active outdoor games, the onlooker must contrast with a schoolroom gymnastic ten (or fewer) minutes, in narrow aisles and heavy atmosphere, with formal movements. There can be no doubting which furnishes the physical and mental refreshing—the ideal of school recesses and calisthenics. The same appropriation expended for game specialists, instead of gymnastics, would accomplish very much more for children under the limitations of time and surroundings at present necessary in public schools; besides furnishing children with plays to be used elsewhere, and, fully as important, assisting character-building. Under wise control these games encourage regard for fair play and justice, powers of leadership and initiative, ideas of cooperation to win and of friendly competition, in tensity of effort, agility of mind as well as of body, resourcefulness, generosity and courtesy.

Earnest students of the times have awakened to the question: How does free public education train for self-government? Its solution was first undertaken in certain higher (private) institutions, Amherst College among the leaders, by establishing a student governing body. This, like college gymnastics twenty years ago, was soon recognized as beginning too late to secure the best results. Primary and grammar grades are social and moral as well as intellectual seed times. In them the child, fitting for membership in a self-governing community, is trained to obey an autocrat. The development of reasoning powers upon questions of personal and particularly of social conduct is wholly neglected. Yet in school government, under judicious supervision, is the great opportunity of school systems to cultivate those ethical forces by which the career of individuals and the success of present civilization must be ultimately determined. A few lower-grade and vacation schools are experimenting to harmonize conditions of school life with democratic government—decided upon by the forefathers—and the results are encouraging. Children, proud of the responsibility of making and administering their own laws, responsive to the influences both of public opinion (in their classes) and from the principal's office, are growing into an understanding of and loyalty to social order, are developing powers of discrimination as to motives and persons, are acquiring an inclination towards upholding community interests —all of which, starting in a play experiment, can not fail to influence for the better the mature man and woman. They are practicing in a form of obedience higher than that developed by personal authority, cultivating the only spirit of obedience that should guide self-respecting members of a democracy—voluntary obedience to the right whether called for through the agency of relationship, of government, or of events.

This is motif and methods in the vacation movement, to care for less favored children during the summer months, to help fill gaps in their training, and to connect certain broken currents between school and citizenship. Good teachers are needed manifestly, to hold voluntary attendance, to give the special instruction indicated, and to conduct such experimenting efficiently. Here is where I bespeak the influence of members of the medical profession. Forming, as such may, a wise standard, use influence, as citizens and government officials, towards encouraging and requiring school committee men to develop that standard, at least until the day when school affairs, as well as municipal, shall be no longer entrusted to politicians, but to men whose business is education and administration, and whose position depends on capacity as in any other business.

The great problem is the selection and preparation of superintendents and teachers. Political policy has been to pay the lowest salaries to teachers of the youngest grades—with the results to be anticipated. Unanimous experience declares that educational experts are needed in vacation schools, and that they are worth the money they cost. They need head teachers skilful in the art of instruction in their special subjects, and in sympathy with the more scientific truths of psychology and child-study formulating by eminent students. They need superintendents of integrity and executive ability, awake to the better possibilities of education through their acquaintance with physiologic psychology and altruistic sociology.

TOBACCO—ITS USES AND ITS ABUSES.

(By H. A. Minor, M. D., Macon, Miss., Read Before the Mississippi State Medical Association, May, 1900.—Mississippi Medical Record.)

Although tobacco has been known to the civilized world since 1584, when Sir Walter Raleigh introduced it into England on returning from one of his voyages to America, and although it is now used habitually by unnumbered millions of people, and although for many years it has held a place among medicinal herbs, yet there is no official preparation of it to be found in our dispensatory, nor is there any adequate description of its power for good and evil in it, or any medical works, so far as my reading has gone. It is described as a sedative poison and nauseant. As a medicine it is not used at all internally, and rarely endermically. One or two drops of the nicotine that collects in the pipe stem rapidly kills small animals. Even used endermically, it is a dangerous remedy. When a physician uses it he must carefully watch the patient and guard him against its poisonous effects, for they may prove fatal even to an habitue. My experience with it has been confined to a very few conditions. I have used it in the form of a snuff plaster, applied to the chest of children suffering from spasmodic croup, and in other spasmodic conditions. It usually affords prompt relief, but should be removed as soon as the spasmodic action has been subdued. The failure to do this has resulted in the death of a child. (This method of using snuff is old; now nearly obsolete.)

It is in strangulated hernia, however, that I find its greatest usefulness. Here, indeed, is a valuable remedy. Permit me to instance a case. A powerful negro man had long had an inguinal hernia. One day it became strangulated and he came to me for relief. To produce the relaxation necessary in such cases I put him under the full influence of chloroform, pushing it as far as it was safe to do; then tried taxis and failed to reduce it. Operation was suggested, but I declined to perform it until after a trial of the relaxant effects of tobacco. To produce this I put a half plug of it into a pint of water, which I brought to a boil; then I spread the leaves over his abdomen. I saturated a towel with the tea and laid it over the leaves, re-wetting it every few minutes. I then loaded my hypodermic syringe with a solution of 1-25 gr. strychnine, ¼ gr. morphine and 1-100 gr. atropine; and waited, realizing that I was using a powerful and dangerous agency. This man had been for many years, as he expressed it, a "tobacco worm." In fifteen or twenty minutes he began to complain of nausea and a sense of depression, and the perspiration began to show on his skin. This became profuse and cool; his skin looked ashy, his pulse was feeble. I stood watchfully alert with fingers on the pulse and syringe at hand. When this relaxation had gone as far as I felt it safe, I started to try reduction by taxis, but just then he uttered an exclamation and I heard a gurgling sound, and lo! the hernia was reduced before I had touched it. I gave the hypodermic injection and brushed away the tobacco, washed his abdomen wtih clean, warm water, and in a few minutes he was comfortable.

I said a while ago that tobacco would kill a man if applied to the unbroken skin and allowed to remain. This, big, strong negro, an habitue, I verily believe, would have died in a short time had I allowed that cataplasm to remain on his abdomen. Before I leave this subject of hernia, I will say that when this plan fails to enable me promptly to reduce it, I give the patient some hours of rest before I propose to operate. This gives him time to recuperate from the depressing effects of tobacco, and what is better, it gives the hypodermic injection time to complete the work of the tobacco; that is, it enables the morphine and atrophine to keep up its anti-spasmodic effect, and the strychnine to promote peristalsis. Often on my return I find the hernia reduced. Thus the need of operative procedures is reduced to a minimum. Dr. N. S. Davis, Sr., of Chicago, used a tobacco suppository in the case of a woman who had eaten a large quantity of popped corn, thereby producing an obstruction in her bowels that had defied the skill of the attending physician. When its characteristic effects were produced, when she became pale and ghastly, and when her skin became covered with cold sweat, her pulse feeble and indistinct, she was thought to be dying by all save Dr. Davis. Strychnine was given, 1-25 gr., morphine ¼. The nerve centers were strengthened, peristalsis was re-established, spasm ceased, the bowels were so relaxed as to allow their greatest calibre, the corn was discharged and the woman got well. A grand old man was this Dr. Davis. He was the father of the American Medical Association; was a skillful and learned physician; was a philanthropist and a Christian gentleman. All honor to his name and memory.

I occasionally use tobacco as an ingredient in prescriptions for hemorrhoids, especially when there is spasmodic contraction of the sphincter-ani.

I now come to the discussion of the "tobacco habit." The habitue does not call it a sedative, a nauseant or a paralyzant. Nor does the physican who watches its effects so call it. On the habitue it is a gentle, local and general stimulant; it is delightful to the taste; it produces a sense of rest and well being. It promotes appetite and digestion; it increases mental activity and powers of endurance in mind and body. It enables the user to do without sleep or food or rest for a long time. It is called the poor man's friend, the solitary man's companion. If this were all it might be justly classed as one of the greatest earthly blessings. But alas! it does not always stop here. It is liable to engender a habit that grows stronger and stronger; a habit that clamors for great indulgence, and generally its clamors are heeded and indulged. From being a servant it becomes a master. Under its influence the organs are overworked; increased function after a while becomes perverted function. Long continued overwork is succeeded by underwork. Steady, regular, rhythmical work becomes unsteady, irregular and arythmic. An erethism is established that may never be eradicated. How is this brought about? What is the modus operandi? The active principles of tobacco, after gaining access to the system, expend their force upon the brain and spinal cord, and through these any part or parts may be affected. When used too freely it acts quickly as a poison, producing effects similar to those produced on the uninitiated, but taken as is usual by the habitue, its effects are as above stated.

While any part or all parts of the nerve centers may feel the specific force of the drug, the medulla and the adjacent parts most often bear the brunt; for not only do they receive the impression of the drug through the blood, as they do the other parts, but also through those filaments of the pneumogastrics, which supply the mucous membrane of the mouth, nose and throat, they get the local effect of the drug. As the pneumogastric nerves which emanate from these centers are the agents by which the power to functionate is conveyed to the respiratory, circulatory and digestive systems, we see why these great systems are so much affected by tobacco; and, as on these depend life and its many manifestations, the power of the drug is here displayed most evidently and most disastrously. The obvious effects of the drug are often confined to only one of these organs; thus its power may be shown in the perturbation of the heart's action, producing too rapid, or too irregular action, too forceful or too weak. The whole circulation of the system is thus disturbed, and disastrous results may ensue.

The perverted action of the nerve centers thus caused, tends to exhaust the vital powers, and sooner or later the crisis will come, if the habit is continued. It may come suddenly and unexpectedly, or it may come gradually. Then, because of some disturbing force, known or unknown, these organs will lose their equilibrium and precipitate some diseased state, or speedy death may occur. The forms of disease that may be produced are protean. The sight may be impaired, as in amblyopia, or it may be indigestion, or asthma, or hiccough, or loss of sexual tion, or astma, or hiccough, or loss of sexual power, or dyspepsia or heart failure. It sometimes produces suicidal tendencies or melancholia, because of the inability to work for the support of a family, or because of an inability to perform the sexual act, or because of loss of hope of future usefulness. Among the most distressing symptoms and most difficult to control are those which occur in women who are hysterical, especially when at the menapause.

The tobacco habitue, unlike the whisky and morphine users, does not seek to hide his habit, but promptly acknowledges it. The proof of the correctness of the diagnosis is usually clear, such as the known power of the drug to produce these conditions; the known habit of the individual; the known supervention of the symptoms, while the habit was in full force; the subsidence or disappearance of the symptoms after the stoppage of the habit; the absence of other diseased states that might produce these symptoms, etc.

There are many such cases of all degrees of severity, from slight indisposition to sudden death. Many go through life without realizing that it has harmed them; many realize its harmful effects after it is too late to avert them, and die from its effects. Many cases of disease that would otherwise recover, do not do so because of the affects of the poison. Here may be found the cause for many cases of heart failure or sudden collapse occurring during the course of diseases, or during surgical operations, not otherwise explainable.

I wish to note here the importance of the pathological states that may occur in habitues as complications in medical and surgical practice. For instance: Two young men, the counterparts of each other in every respect, save that one of them has long been a user of tobacco, both are taken sick, with, say typhoid fever, at the same time and with equal severity. The non-user is treated for that one diseased condition; all his vital forces assisting in his recovery. In the study of the other case the wise physician will take into consideration the fact that the long continued use of tobacco has impaired the recuperative energies of his patient, and has so diminished the power of the nerve centers, upon which it has been expending its forces, that they are liable to fail in the emergencies that arise in the course of the disease. Not only so, but he must take into consideration the fact that the sudden withdrawal of the accustomed stimulus may produce results anything but desirable; so we see that as in the first case the doctor has one condition to look after; in the latter he has three. Herein is to be found the explanation of many symptoms and states that have nonplussed us in the past. I have seen symptoms closely approximating delirium tremens in non-drinkers who were immoderate users of tobacco.

I wish to enlarge somewhat on a thought suggested in an early part of this article; a thought that contains a great truth: It is, one drug habit greatly pre-disposes to other drug habits. These drugs, while greatly differing in their effects, will act vicariously, each for the other. How many users of alcohol are there who do not use tobacco, or users of opium or morphine who do not use it? How many users of cocaine who do not use all the others? When the agent ordinarily used cannot be had, usually the habitue will seek others of its class.

A system accustomed to the use of stimulant tends constantly to an increase in its demands for more of it, and when the one used is proven inadequate to supply the demand, it insists on a stronger.

The effects of tobacco poisoning do not ordinarily produce any pathological effects that are observable at any post-mortem. I recall but one form of a diseased state produced by it that causes observable pathological effects after death; that is, when from long continued overaction of the heart, by its stimulant effects, hypertrophy is produced. In such cases the orifices of the heart, thus enlarged, change shape; while the valves neither hypertrophy nor change shape. As a consequence they will not fit those orifices and then results regurgitation of blood at each heart beat. The disastrous results ensuing point the moral of the tale.

I have been asked which of the methods of using tobacco did I deem most harmful. There is no good way to use it; each of these bad ways has its especial bad result. But I wish to say that I deem the frequency of its use to be more harmful than the mode; hence the exceedingly harmful results of the cigarette, even when we leave out the inevitable harm done by inhaling the smoke. The system is at no time free from the poison; it has no time for recuperation. No time for a recurrence to a state of nature. While tobacco is so poisonous to the adult, it is much more so to the adolescent, while its effect on small boys is absolutely ruinous if the habit is persisted in. The medical profession is not alone in its appreciation of the harmful effects of this drug, but college professors, railroad officials, army and navy officers have all come to know and to recognize the injurious effects of the habit. The college professors have by careful statistics been able to show that the adolescents in college who are non-users of it, stand higher intellectually, and are better fitted for usefulness in life, other things being equal, than the users thereof. Railroad officials know that tobacco-users are more liable to color blindness and stand less fatigue in the long run than the non-users. Army and navy men, while not refusing the tobacco users, watch with extreme care for any evidence of its poisonous action.

In conclusion: The physician is the custodian of the health of his people to the extent of his ability to control them. As it is the duty of the Christian minister to do his utmost, not only to induce people "to cease to do evil and learn to do well," but also to use his influence to prevent people from departing from the right or starting with the wrong, so it is the duty of the physician, by precept and example, and by every available means, to conserve and preserve the moral and physical health of the people, so far as in him lies. If he does less than this; if, to be specific, drug habits are engendered through the use of his prescriptions, or by neglect on his part to warn his people against the danger incurred in the use of these drugs, is he not responsible? I verily believe that God will hold us to a strict account for the use we make of the opportunities that inhere to the practice of our profession.

ONE MORE CASE OF APYRETIC MEMBRANOUS CROUP.

By A. E. Cordes, M. D., Paris, M. R. C. P., London; Geneva, Switzerland.

On January 14, 1899, I was called to see S. S., aged 5 years, convalescent from measles.* She had been eating too much heavy food, and was well after a dose of castor oil. On January 17, at 6 p. m., I was called hurriedly to her and found her suffering from sore throat. There was aphonia, and a bit of membrane was seen on the right side of the pharynx. I went to obtain Roux's serum, and called Dr. Audioud, who agreed with my diagnosis, and injected at once 20 cc. of the serum. The aphonia was more marked when the child struggled during the examination of the pharynx. The temperature was 38° C. (100.4° F.). At 8:15 p. m. the child became more quiet.

THIOSINAMIN FOR REMOVING SCAR AND OTHER SKIN LESIONS.

Thiosinamin has been employed for several years for the removal of cicatricial tissue, lupus, the method proposed by Hebra being subcutaneous injection. Lately Unna has reported in his own experience with his agent (Boston Med. and Surg. Journal), and the latter proposes a more satisfactory method. Thiosinamin being insoluble in water and injections of alcohol solutions being painful, Unna used it in the form of a soap, in 5, 10 and 20 per cent. strength, and spread on plaster muslin, in the treatment of fibrous tumors of various kinds, keloids leprous, and syphilitic lesions and scarring from smallpox. He found them much more effective in the treatment of these conditions than his former treatment had been; this had consisted in massage, combined with mercurial plaster, salicific acid plaster muslin, &c. The soap was more irritating than the plasters, so these were used in the majority of instances. With these plasters no irritation nor pain was experienced, as had been the case with injections. In the treatment of smallpox scars a mask of the thiosinamin plaster was worn at night. The parts of the body freed from hair and protected by clothing were benefitted most by a plaster worn constantly. The soap is more effective on the face, hands and scalp, it being allowed to dry on. Severe cases may be treated by the plaster at night and the soap by day. This treatment may be alternated with mercurial plasters and massage. Unna believes that thiosinamin is a distinct advance in the therapeutic treatment of fibrous cicatricial deformities, which are regarded by most practitioners as practically hopeless. —Western Druggist, Aug., 1900.

SIGNS OF UNSUCCESSFUL NURSING IN THE INFANT.

Temperature—During the first four or five days the most important sign of insufficient food is a rise of temperature: "inanition fever," so-called. The range may be from 101° to 102°, or in extreme cases from 104° to 106°. If no obvious symptoms of illness are present, such a temperature before the fifth day may be regarded as due to inadequate nursing.

Weight—Failure to make the proper gain, if not accounted for by existent disease, is nearly always due to inadequate nourishment.

Length of Time and Manner of Nursing—If the infant habitually remains at the breast for more than twenty minutes; or if, after taking the breast with avidity, it soon turns away fretting, only to resume in a minute or so, and finally gives it up disgusted and crying, the milk is probably too scanty. Sometimes the same thing is indicated by the baby's refusing to take the breast. On no account should such an infant be pacified by letting it sleep on the breast or by giving it a rubber nipple.

Vomiting—A few infants thrive, in spite of considerable regurgitation. But, if the vomiting is between feedings and habitual, the sign is important.

Colic—If only occasional, colic does not mean much, even though severe; but the baby that has continual discomfort, with more or less flatulence, is not getting the proper kind of milk.

Stools—That the nursing is improper may be shown either by constipation, with dry, light-colored or greenish stools of foul odor, or by diarrhœa, with thin yellow or green stools, four to ten a day, which contain curds, and after a time mucus.

Sleep and Disposition—Sleeplessness, and fretfulness are generally due to either hunger or indigestion.—Sajous's Annual and Analytical Cyclopedia of Practical Medicine, Vol. V., page 219.

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THE MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

(Entered at Post Office at Minneapolis as Second Class Matter.)

Issued on the First of every Month at Minneapolis, Minn.

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DECEMBER, 1900.

A MINNESOTA SANATORIUM FOR THE TUBERCULAR.

We would earnestly draw the attention of our readers to the important question of establishing a sanatorium for the tubercular in this state. While the advantages of certain climates have long been recognized, the custom has too generally prevailed of sending consumptives far advanced in the disease to certain popular health resorts until many of these have become infected. In the ordinary health resort little is done to prevent infection, and when we remember that each consumptive may expectorate billions of bacilli every day, and that these may retain their potency for months, the necessity of special care and special equipment in the treatment of tubercular patients, both for their own good and for the safety of others, becomes self evident.

Minnesota has a climate which has already been the salvation of many tubercular men and women, who came from other parts in search of health. The pine forests of the northern part of the state afford excellent locations for sanatoria, and we trust the enterprise and up-to-date energy of our citizens will do the rest. Experience along this line in other places has been encouraging. The figures from four of the principal sanatoria in the United States show that 67 per cent. of the cases have been benefitted and twenty-five per cent. cured.

The Hennepin County Medical Society can do excellent public service by urging the question of a sanatorium for Minnesota, and the report of the committee recently appointed to investigate the matter will be looked for with deep interest.

"THE ONLY STIRCTLY HONEST AND ETHICAL JOURNAL."

We positively decline to be drawn into a quarrel such as is only too common between rival journals and newspapers in small country towns, but the announcement of a medical journal in a neighboring city is so absurd that we cannot let it continue without reproof. The pharisaical statement of the St. Paul Medical Journal that it is "the only strictly honest and ethical medical journal in the Northwest" would come with much better taste from an outside source. The oft-repeated statement that it is the only journal in the Northwest owned by medical men is another trifling error into which this "strictly honest and ethical" St. Paul journal has fallen. The Medical Dial is owned and controlled by physicians alone. We have tried to be honest and ethical. True, we have not been able, with our limited knowledge, to direct our readers to the best places to secure good whiskey or palatable beer, nor to convenient trysting places for ladies and gentlemen. We pay our tailors cash, and do not care to purchase our garments by trade advertising, nor do we beg for help from business houses that have no earthly use for the columns of a medical journal. Perhaps all this kind of advertising is strictly ethical, but we cannot see it.

"WELCOME THE COMING, SPEED THE PARTING GUEST."

This city will have the distinction of entertaining the Western Surgical and Gynecological

Association, on December 27 and 28 next. This comparatively young society is rapidly gaining in popularity and reputation, and will ere long become equal to, if not better than either of the other two similar associations covering the South and East. As the coming meeting will be the first visit of the Association to our city we bespeak for every individual visitor a cordial reception. We trust the local practitioners, especially those devoting their attention to surgery and gynecology will, if they have not already done so, become members of the association. A large accession to the roll of members will be the best compliment we can pay our visitors, while the ordinary courtesies we feel sure will not be lacking.

Dr. A. W. Abbott, of Minneapolis, is chairman of the committee on arrangements.

On the 4th, 5th, 6th and 7th of June next the American Medical Association will hold its fifty-fourth annual meeting in St. Paul, and it is expected that the profession of Minneapolis will entertain the association for at least one evening. To do honor to our guests and credit to ourselves will require "a long pull, a strong pull, and a pull altogether."

EFFECTS OF CULTURE ON THE VIRULENCE OF STREPTOCOCCI.

It would be natural to suppose that two separate cultures from the same micro-organism would produce similar results. That such is not the case is well illustrated by the different action of cultures of streptococcus, one made by McFarland (Text-book upon the Pathogenic Bacteria, p. 67) and the other by Marmorek.

In McFarland's experiment the streptococcus was isolated from the blood of a patient dead of puerperal sepsis. It at first grew very scantily upon glycerine agar-agar and blood serum, and proved fatal to rabbits in intravenous injections of .1 c. c. of a 24-hour-old bouillon culture. After a year's cultivation its virulence apparently disappeared entirely, so that 5 c. c failed to produce any symptoms when injected into the ear vein of a rabbit. It also became greatly altered in cultured appearance and finally grew luxuriously upon glycerine agar-agar and blood serum.

In Marmorek's experiment the micro-organism was kept constantly passing from rabbit to rabbit, using in the intervals a culture-medium consisting of bouillon containing asses' serum, human serum, ascitic fluid, &c. In this manner a streptococcus of extraordinary virulence was produced, for it was found that one one-hundred millionth of a cubic centimetre was sufficient to kill a rabbit.

The explanation of the difference in the virulence of these cultures is supposed to lie in the fact that bacteria have two functions, viz: the toxin-forming function and the vegetative function. In McFarland's experiment the attenuation of the streptococcus probably depended upon the fact that but few of the individual cocci were capable of growing upon artificial media, and in transplanting it these vegetative cocci and their progeny were gradually picked out until they entirely outlived the less vegetative but more pathogenic members of the colonies. (op. cit. p. 67.)

THE MULTIPLICATION OF BACTERIA.

A single bacterium has been calculated by Nägeli to weigh one ten thousand millionth of a milligram. The length of a generation is from fifteen to forty minutes. Supposing all the conditions for multiplication to be favorable the results are appalling. Cohn has estimated that a single germ can produce, by simple fission, two of its kind in an hour; in the second hour these would have multiplied to four; and in three days they would form a mass of four thousand seven hundred and seventy-two billions, an enormous mass, whose weight would amount to seventy-five hundred tons. Fortunately, these ideal conditions never exist, each germ requires food, and as the supply is always limited (not to speak of other conditions), immense numbers die of starvation.

NEW OFFICERS ELECTED.

At the last meeting of the St. Louis Academy of Medical and Surgical Sciences, the following officers were elected for 1901:

President—Dr. Emory Lanphear.
Senior Vice-President—Dr. Carl. Presold.
Junior Vice-President—Dr. H. S. P. Lare.
Secretary—Dr. O. L. Suggett.
Treasurer—Dr. G. M. Phillips.
Orator—Dr. Wm. Porter.
Librarian—Dr. H. G. Nicks.

THE NEW DETENTION HOSPITAL.

It is announced that work will begin at once upon a new detention hospital on the city hospital grounds, the sum of $24,000 having been generously subscribed by philanthropic citizens of Minneapolis.

SLEEP WITHOUT DRUGS. ONE HUNDRED DOLLAR PRIZE.

J. B. Learned, M. D., of Northampton, Mass., thus writes to the Medical Times (Nov. 1900.):

"The New Method of Inducing Sleep Without Drugs consists in bringing under will power the functions of organic life immediately on retiring. The organs of respiration and circulation respond to our bidding. Certain other groups of muscle, by contraction and relaxation, may be made accessory in directing the arterial and vital currents away from the gray matter of the brain. As a result, automatic thinking, which is the immediate cause of sleep's delay, in the case of the average brain-working business man, is absolutely shut out, and normal sleep is inevitable.

To give the technique in full would require more space than can be used here. Suffice it, that mental and physical conditions, positions and changes, extemporized and controlled by will power in the horizontal position, with suitable temperature and ventilation of body-surface as well as lungs, is the sheet anchor of "The New Method."

Believing that the medical profession has power to turn the attention of suffering humanity from the mysterious chimerical and damaging drug agents they now depend upon, and that it is our duty to shed light rather than darkness, I offer a prize of one hundred dollars for an essay which shall describe any method of extemporizing sleep immediately on retiring for the brain-working classes, that will equal or surpass "The New Method" above referred to.

Time allotted for preparing essays, from date of this issue to July 1, 1901. Length of essay not to exceed five thousand words; to be in print or typewritten, without the name of the writer. Judges of the merits of the essays shall be representative men of scientific medicine. Time for awarding prize, Sept. 1, 1901. Results will be announced in this journal."

TWO HUNDRED AND FIVE CASES OF DIPHTHERIA WITH TWO DEATHS.

The epidemic of diphtheria recently prevailing in Peekskill, New York, has materially increased the demand for antidiphtheritic serum in that locality. In the practice of nine physicians of Peekskill but two deaths have occurred among 205 cases treated with serum.

Book Notices.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A new and complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with their Pronunciation, Derivation, and Definition, and including much collateral Information of an Encyclopedic Character, together with new and elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomains and Loukomains, Weights and Measures; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. With numerous Illustrations and 24 Colored Plates. By W. A. Newman Dorland, A. M., M. D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of American Academy of Medicine. Philadelphia and London: W. B. Saunders & Company. Price plain $4.50; with index $5.00.

A convenient word-book for medical men is not an easy product of the lexicographer's research or the printer's art, but the Saunders have recently placed on the market such a work under the distinguished guidance of Dr. Dorland. This dictionary will be found absolutely indispensable when a copy once finds its place on the physician's desk. This volume, which is so handsomely bound in flexible Russia, is all that any physician could desire in a medical dictionary. It is not an encyclopedia, nor is it an abridged student's dictionary. The size of the book is 6½ by 9¼ inches and nearly 2 inches in thickness.

SEXUAL DEBILITY IN MAN. By F. R. Sturgis, M. D., formerly Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York; sometimes Visiting Surgeon to the Venereal Division of the City (Charity) Hospital, Blackwell's Island; Member of the American Association of Genito-Urinary Surgeons, etc. Author of "Student's Manual of Venereal Diseases;" one of the Authors of "A System of Legal Medicine." Illustrated. New York: E. B. Treat & Company, 241-243 West Twenty-third street. Price $3.00.

Although the subject of sexual debility is such an extremely delicate one to discuss, yet Dr. Sturgis handles it without gloves, and touches upon all phases of the topic. The author's avowed object in writing the book is to introduce to medical men the sundry opinions the writer holds upon sexual weaknesses in men which he is convinced from experience are correct. He treats the subject of masturbation very cleverly, but takes the ground that indulgence in this vice is not necessarily a prelude to both physical and mental degeneration, but at the same time, he does not gloss over the dangers that may ensue. He recommends the castrating of masturbating lunatics as justifiable under certain circumstances; claims that spermatorrhea is not necessarily produced by pollutions, and that treatment of the two afflictions are entirely different; takes the ground that a man having spermatorrhea is not foredoomed to impotence and sexual uselessness; asserts that there is nothing in common between prostatitis and prostatorrhea. There are nine very fine plates showing microscopical appearances of the genito-urinary secretions. The work is a succinct presentation of the subject of sexual debility in men.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M. D., Surgeon to the Massachusetts General Hospital, Out-Patient Department; Assistant in Clinical and Operative Surgery in the Harvard Medical School. Assisted by Frederic J. Cotton, M. D. With 585 Illustrations. Philadelphia and London: W. B. Saunders & Company. Price $4.50 net.

The author of this work intended it to serve as a guide to the practitioner and student, and after giving due credit to anesthetics, the X-ray, antisepsis, etc., in his preface, he says that "an exact knowledge of anatomy combined with accurate observation is recognized as the proper basis for the diagnosis and treatment of fractures." The work is mainly descriptive, with artistic illustrations, of the various operations, and avoids theories, so that all the matter contained in it is of a thoroughly practical nature.

ATLAS AND EPITOME OF DISEASES CAUSED BY ACCIDENT. By Dr. Ed. Golebiewski, of Berlin. Authorized translation from the German with Editorial Notes and Additions by Pearce Bailey, M. D., Consulting Neurologist to St. Luke's Hospital and the Orthopedic Hospital, New York, and to St. John's Hospital, Yonkers; Assistant in Neurology, Columbia University; Author of "Accident and Injury: their Relations to Diseases of the Nervous System." Forty Colored Plates, and 143 Illustrations in Black. Philadelphia and London: W. B. Saunders & Company. Price $4.00 net.

It is, of course, impossible to prepare a work upon the above subject that will cover all the peculiar accidents that may occur, for it is probable that no two or more accidents that have ever happened are exactly alike, but an illustrated book showing a large number of the results of accidents is as near to a hospital contact with cases as it is possible to get. The author bases his text in general on an experience with accident-cases covering a period of over thirteen years, embracing a total of 5245 cases Many of these cases he has had under observation for many years, and for this reason his observations are extremely valuable The colored plates are exquisite works of art.

ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. By Charles E. de Sajous, M. D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Vol. V. Philadelphia, New York and Chicago: The F. A. Davis Company, Publishers. Price, cloth, $5.00; half morocco, $6.00.

The fifth volume of the Cyclopedia above named has appeared and maintains the high standard of excellence set by the previous numbers. The subjects included from Methyl-blue to Rabies are numerous and practically discussed, with copious quotations from the latest literature as to descriptions and treatment by various distinguished authors of the several diseases. While all are ably considered they are so condensed as to make them a ready reference for those seeking the latest and best information. It would be useless to particularize, as the whole volume will be found valuable to the profession, and will no doubt meet with a hearty reception.

A TEXT-BOOK OF HISTOLOGY, INCLUDING MICROSCOPIC TECHNIC. By A. A. Böhm, M. D., and M. von Davidoff, M. D., of the Anatomic Institute in Munich. Edited with Extensive Additions to both Text and Illustrations, by G. Carl Huber, M. D., Junior Professor of Anatomy and Director of the Histological Laboratory, University of Michigan. Authorized Translation from the Second Revised German Edition by Herbert H. Cushing, M. D., Demonstrator of Histology and Embryology, Jefferson Medical College, Philadelphia. With 351 Illustrations. Philadelphia and London: W. B. Saunders & Co. Price $3.50 net.

The lectures and courses in histology as carried out in the University of Munich have long been famous, and many students from all over the world have been attracted to them. The teachings of the Munich school are presented as fully as possible from both the theoretic and technical standpoints in the work of Böhm and Davidoff, the translation of which excellent work by Dr. G. Carl Huber, is now before us. Those who are familiar with the original work will testify to the faithfulness of the translation, while the English speaking student will find in this volume a mine of knowledge which has heretofore been concealed from him by reason of his non-acquaintance with the German language. Not only is the original work faithfully reproduced, with its admirable illustrations, but the editor has added freely to the German text. Especially is this noticeable in the sections on the Motor and Sensory Nerve-endings, on the Spinal and Sympathetic Ganglia, and the Innervation of Glands and Organs. The mechanical part of the work is carried out in the usual finished style of W. B. Saunders & Company.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by J. Collins Warren, M. D., LL. D., Professor of Surgery in Harvard Medical School; Surgeon to the Massachusetts General Hospital — and A. Pearce Gould,, M. S., F. R. C. S., Surgeon to Middlesex Hospital; Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School; Member of the Court of Examiners of the Royal College of Surgeons, England. In two volumes. V. 1. with 458 Illustrations in the Text, and 9 Full-page Plates in Colors. Philadelphia and London: W. B. Saunders & Company. Price, Cloth, $5.00 net; half morocco $6.00 per volume.

The editors of the above work are vigorous writers on the various departments of surgery, and, while they do not aim to be merely novel, they have carefully omitted the out-of-date methods, and it is believed that nothing is contained between the covers that is not of modern usefulness The first volume treats of general surgery, while it is reserved for the second volume to be devoted to special surgery, an arrangement that will be found agreeable to most operators. The Drs. Warren and Gould admit that modern surgery is still in the transition stage of its development, and, consequently, it is impossible for any one person to write authoritatively on the vast range of subjects embraced in pathology, symptomatology, diagnosis and treatment in order to give a complete guide to modern practice. For this reason quite an array of very distinguished talent was engaged in the production of the book. These two volumes will be found an invaluable aid to the progressive surgeon.

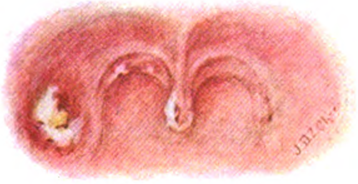
ATLAS AND EPITOME OF GYNECOLOGY. By Dr. Oskar Schaeffer, Privadocent of Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised and Enlarged German Edition. Edited by Richard C. Norris, A. M., M. D., Surgeon-in-Charge, Preston Retreat, Philadelphia; Gynecologist to the Methodist Episcopal Hospital and to the Philadelphia Hospital; Consulting Gynecologist to the Southeastern Dispensary and Hospital for Women and Children; Lecturer on Clinical and Operative Obstetrics, Medical Department, University of Pennsylvania. With 207 Colored Illustrations on 90 Plates, and 62 Illustrations in the Text. Philadelphia and London: W. B. Saunders & Company. Price $3.50 net.

No atlas of the series is more valuable than the above, especially to the gynecologist, and this, the second edition, has been brought up-to-date, and probably represents all the advances in our technical knowledge of the subject. While the book is not exactly comprehensive, yet it is sufficiently complete to be of great help to the student and practitioner.

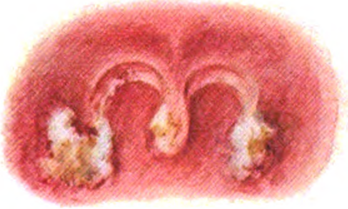
A MANUAL OF PERSONAL HYGIENE. Edited by Walter L. Pyle, A. M., M. D., Assistant Surgeon to Wills Eye Hospital, Philadelphia; Fellow of the American Academy of Medicine; former Editor of the International Medical Magazine; etc. Contributors: J. W. Courtney, M. D.; George Howard Fox, M. D.; E. Fletcher Ingals, M. D.; Walter L. Pyle, M. D.; B. Alexander Randall, M. D.; G. N. Stewart, M. D. (Edin.); Charles G. Stockton, M. D. Illustrated. Philadelphia and London: W. B. Saunders & Company. Price $1.50 net.

The problem of how to maintain life to an indefinite period is, of course, impossible to solve in a world that is finite, but just how to maintain physical and mental vigor, although various methods have been and are continually proposed, is a question admitting of intelligent discussion. Much valuable advice is given in language that is as simple as a scientific discussion of the topic will admit. Each special chapter is complete in itself, and taking the book as a whole it covers such subjects as eating, drinking, breathing, bathing, sleep, exercise, etc., in such a manner as to convey much practical information in concise and readable form.

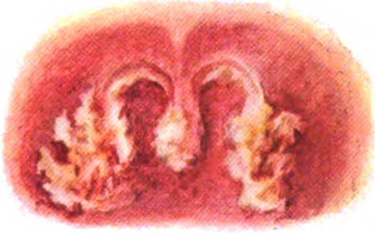
THREE-COLOR REPRODUCTIONS FROM LIFE, SHOWING THE DEVELOPMENT OF THE DIPHTHERITIC MEMBRANE AND ITS DISAPPEARANCE RESULTING FROM THE ADMINISTRATION OF ANTITOXIN.



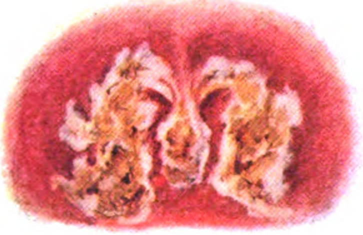
First day of disease
Appearance of Membrane



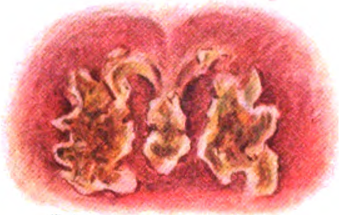
Twelve hours later



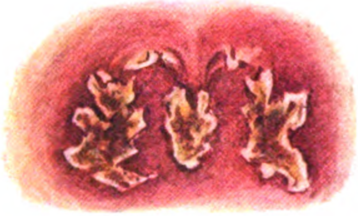
Twenty-four hours later



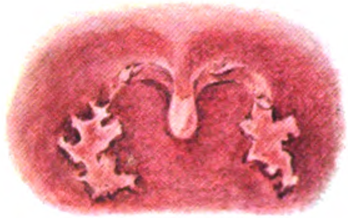
Second day of disease
Showing involvement of tonsils and hard and soft palate
At this stage of disease Mulford's Antitoxin was first administered



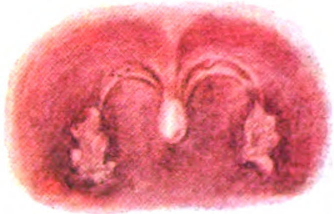
Six hours after administration of Antitoxin
Showing arrested growth of membrane and beginning line of demarcation



Twelve hours after administration of Antitoxin
Course of disease checked



Twenty-four hours after administration of Antitoxin
Convalescence established



Second day after administration of Antitoxin
Showing throat resuming normal appearance

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MEDICAL DIAL

A Monthly Record of Medicine and Surgery.

Vol. II.
No. 12.
MINNEAPOLIS, DECEMBER, 1900.
$1.00 per Annum.
This No. 15c.

CONTENTS.

SYMPOSSIUM ON TUBERCULOSIS.

On the Need of Sanatoria in the Treatment of Pulmonary Tuberculosis. (J. H. Stuart, M. D., Minneapolis) . . . 277
Discussion 281

CURRENT GLEANINGS.

Tuberculous Lesions from a Clinical Point of View. 262
Tuberculosis and Tuberculous Ulcers of the Stomach and other Abdominal Organs 283
The Treatment of Headache in the Phthisical 285
A Theory of Fat Foods for Tuberculosis 286
The Treatment of Consumption at Home. 287

ORIGINAL ARTICLES.

An Unusual Accident in Intubation of the Larynx (H. A. Beaudoux, M. D., Fargo, N. D.) 287
The Physician's Influence in Revacation Schools (Helen C. Putnam, M. D., Providence, R. I.) 288
Tobacco—Its Uses and Abuses. (H. A. Minor, M. D., Mason Miss.) 291

EDITORIALS.

A Minnesota Sanatorium for the Tubercular 296
"The Only Strictly Honest and Ethical Journal" 296
"Welcome the Coming, Speed the Parting Guest" 296
Effects of Culture on the Virulence of Streptococci 297
The Multiplication of Bacteria. 297

BOOK NOTICES.

An American Illustrated Medical Dictionary. By W. A. Newman Dorland, A. M., M. D. Published by W. B. Saunders & Co 298
Sexual Debility in Man. By F. R. Sturgis, M. D. Published by E. B. Treat & Co 298
The Treatment of Fractures. By Charles Locke Scudder, M. D. Published by W. B. Saunders & Co. . . . 299
Atlas and Epitome of Diseases Caused by Accident. By Dr. Ed. Golebiowski. Published by W. B. Saunders & Co. 299
Annual and Analytical Cyclopædia of Practical Medicine, Vol. V. By Charles E. de Sajous. M. D. Published by the F. A. Davis Company . 299
A Text-Book of Histology, Including Microscopic Technic. By A. A. Bohm, M. D. Published by W. B. Saunders & Co 299
The International Text-Book of Surgery. By American and British Authors. Published by W. B. Saunders & Co. 300
Atlas and Epitome of Gynecology. By Dr. Oskar Schaeffer. Published by W. B. Saunders & Co.............. 300
A Manual of Personal Hygiene. Edited by Walter L. Pyle, A. M., M. D. Published by W. B. Saunders & Co . . . 300

MISCELLANEOUS.

An Alleged Cause for Appendicitis . . 287
One more case of Apyretic Membranous Croup. 294
Thiosinamin for Removing Scar and Other Skin Lesions. 294
Signs of Unsuccessful Nursing in the Infant 295
New Officers of the St. Louis Academy of Medical and Surgical Sciences . . 297
The New Detention Hospital of Minneapolis. 298
Sleep Without Drugs. One Hundred Dollar Prize 298

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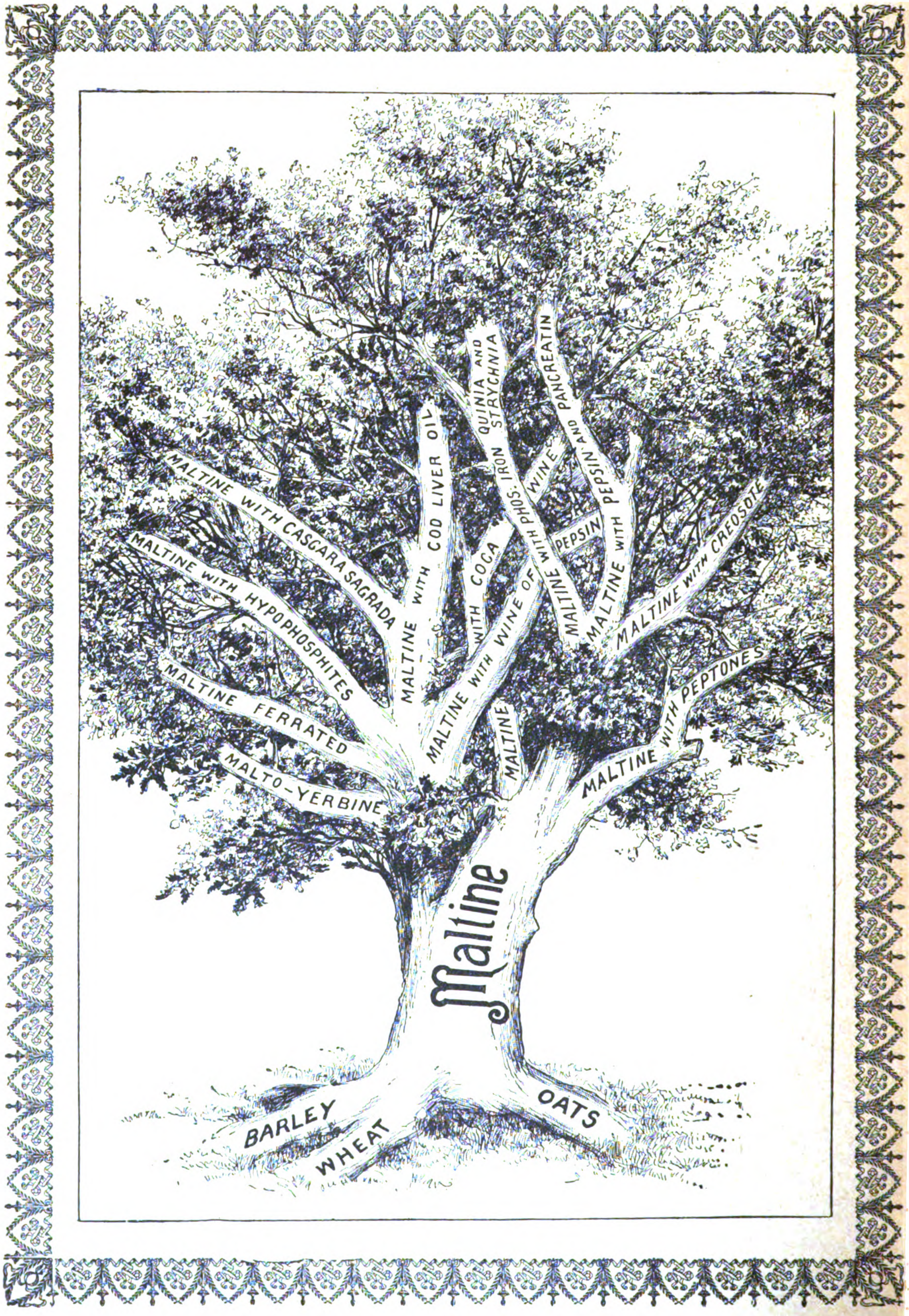
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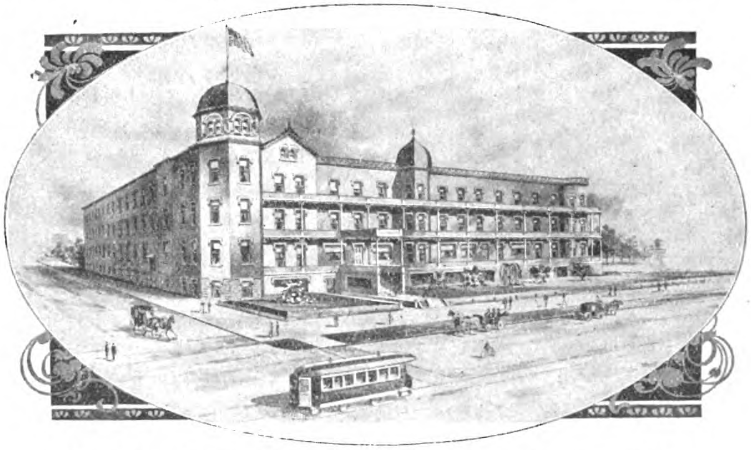

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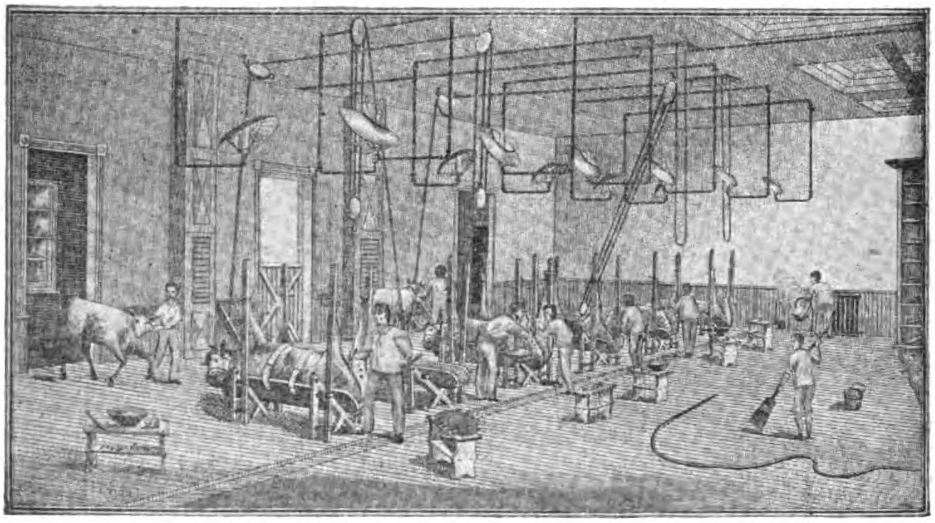

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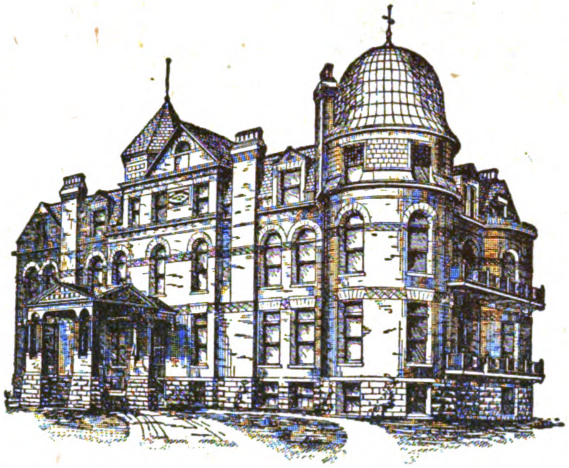

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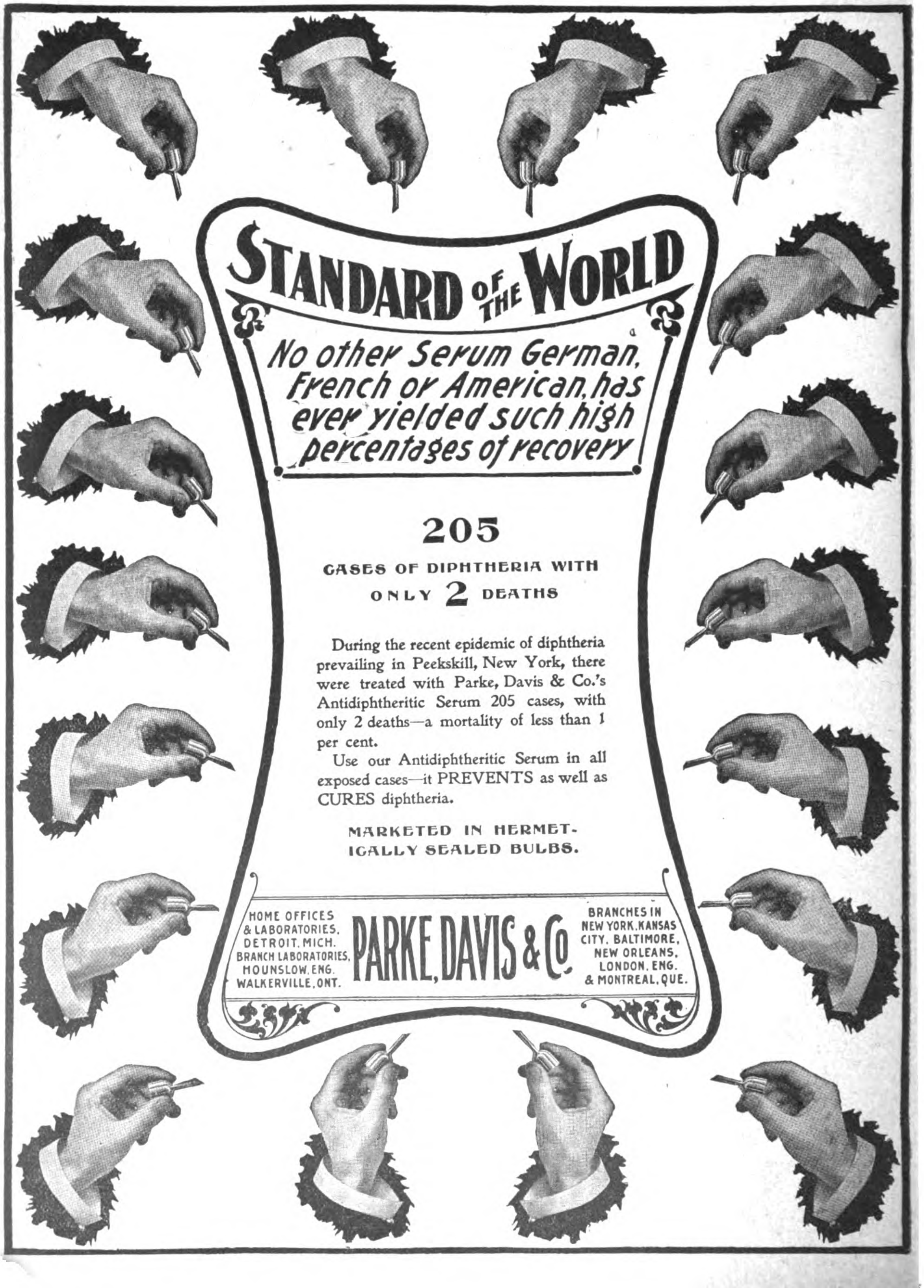

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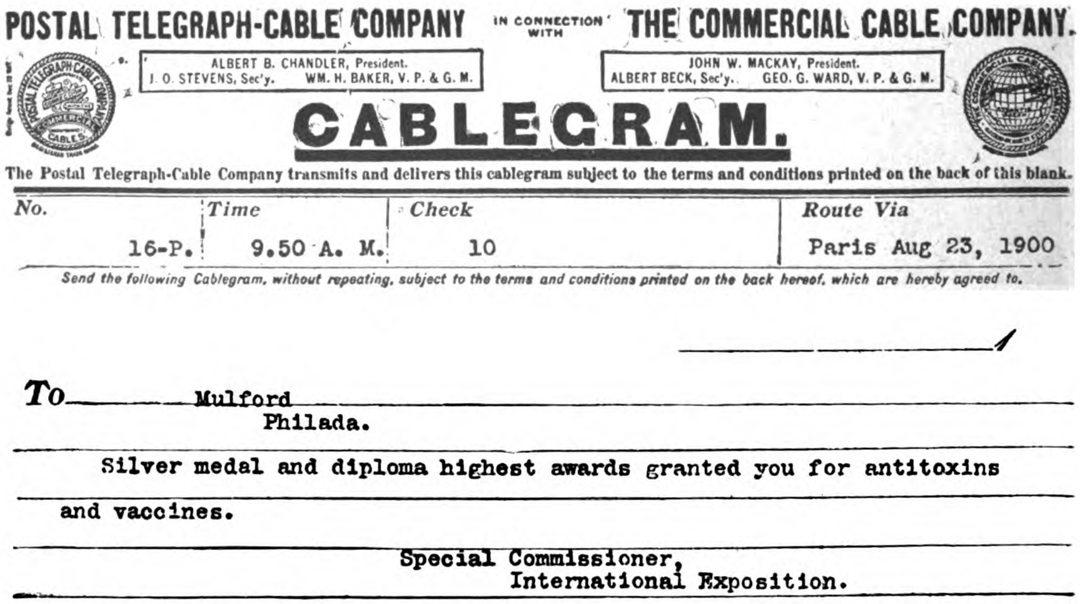

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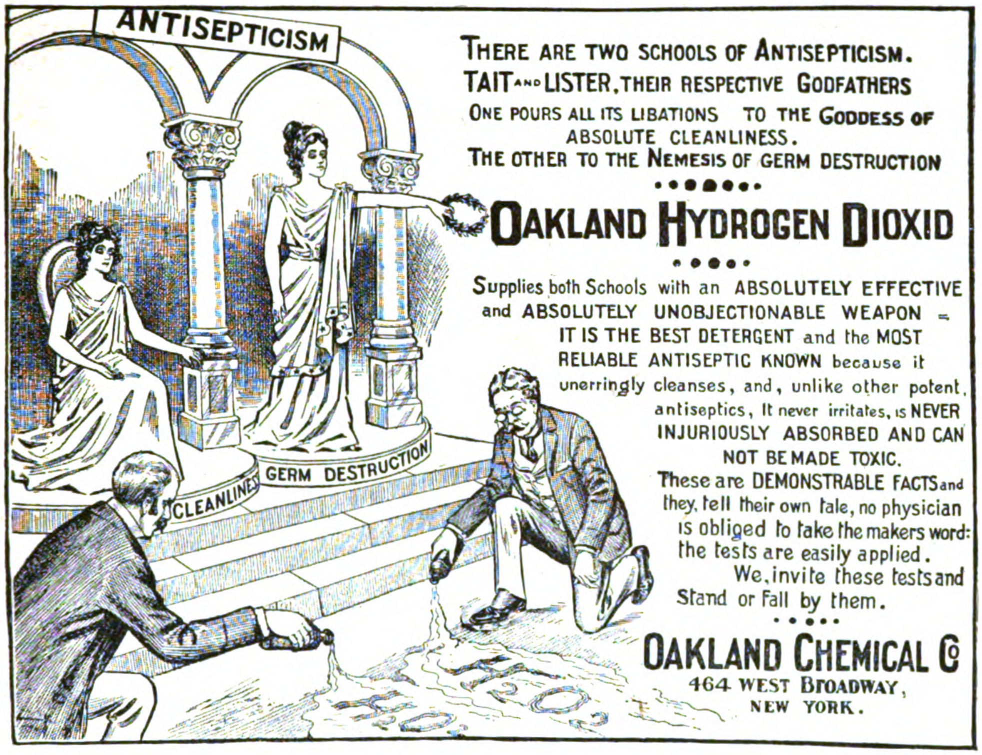

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"Neurasthenia, neuralgia and other manifestations either of an active or passive character are common and are always peculiarly rebellious to treatment. Neuralgia constitutes the great cause of danger from the employment of hypnotics and narcotics, which only afford relief by numbing but effect no cure. On the other hand, the formation of a drug habit rather aggravates the condition from which relief was originally sought. I have found nothing so suited to these cases as five-grain antikamnia tablets, administered in doses of from one to three tablets and repeated every one, two or three hours according to the attendant's judgment. These tablets not only afford complete relief without fostering a drug habit, but they do not endanger weakened hearts as is the case with so many other coal-tar derivatives. Being free from opium and allied products, their exhibition is attended with no unpleasant after-effects. I use them therefore in preference to any other preparation in the treatment of female neurotics, and experience demonstrates that they are safest and best."

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I have also used Maltine with Pepsin and Pancreatin with most happy and gratifying results. Its benefits have been most pronounced in debilitated and rachitic children where there was malnutrition and improper assimilation of food.

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CHRONIC GASTRIC CATARRH OF TEN YEARS' STANDING.

By T. J. Biggs, M. D., Stamford, Conn.

George Reynolds, Stamford, American; age 56, October 8th came to me presenting the following symptoms: loss of appetite, disagreeable feeling of gnawing and at times fullness in the stomach; tenderness at the epigastrium, but slightly influenced by eating; prominence of the epigastrium; morning vomiting, consisting of glairy mucus raised after great retching, constant thirst, water and at times stimulants being craved; often great burning at pit of stomach; bowels constipated; urine high colored; a feeling of mental depression; sleeplessness, with occasional attacks of vertigo; follicular pharyngitis of an aggravated type; much loss of flesh; muscles relaxed and the skin dry. The patient had suffered with this condition ten years, and in spite of all treatments employed had been growing steadily worse.

I put him on the following course of treatment, after thoroughly regulating the bowels, and secretions: a teaspoonful of bovine in milk every hour; to allay thirst he was given a half teaspoonful of bovine in half a glass of ice water, as necessary. At the end of the third day the bovinine was increased to a tablespoonful every two hours, this was continued up to the 19th, when the bovinine was again increased to a wine-glassful every three hours; at this time the morning vomiting had ceased, the pain in the abdomen had disappeared, and he had gained three and a half pounds in weight, treatment continued. October 29th, patient's condition splendid, feels hungry, but is still satisfied with the bovinine and milk; treatment continued. November 8th, patient said he was well, all symptoms had disappeared, and he was now allowed a light general diet; from the beginning of the blood treatment up to the present time having taken absolutely nothing but the bovinine and milk. November 12th, patient discharged, cured, had gained 12¾ pounds in flesh, and was feeling splendidly.

A WAIL OF DISAPPOINTMENT.

[Reprinted from The National Druggist, St. Louis, Mo., November, 1900.]

An Eastern concern, which makes an imitation of Gude's "Pepto-Mangan," and, for years, has traded upon the reputation which this preparation has earned for itself, has recently sent broadcast to the medical profession of America a circular letter, in which, after bewailing the enormous returns brought by the "unethical methods" of other manufacturers, modestly refers to its own "ethical" virtues, and expresses the belief that, in spite of present non-appreciation of these virtues by the doctors, "the day will come when physicians will realize the importance of ceasing to be the instigators and propagators of the popularity of certain proprietaries" and will patronize "ethical preparations"—like theirs, for instance.

This, to say the least, is a very left-handed compliment to the great body of the medical profession, who will not be slow to catch its drift, or fail to enquire wherein consists the "ethicalness" of the methods of the concern who thus sharply takes them to task for preferring a genuine to a spurious article.

Druggists, as a rule, are not much interested in the quibbles of the doctors on questions of "ethics," but in this matter most of them will recognize in the circular referred to, a wail of disappointment and an effort to draw attention away from the methods adopted by its authors to supplant the preparation thus covertly assailed by them with their own imitation thereof.

The time has gone by when either doctor or druggist can be deceived by any such false play. Every member of both professions knows that "Gude's Pepto-Mangan" is a preparation of genuine value, manufactured on scientific principles, by reliable men, and introduced to physicians in an ethical manner, solely on its merits, and for these reasons physicians will cotinue to be "instigators and propagators" of its popularity, just as the druggists will continue to keep in stock an article for which there is a steady demand and a ready sale.

PHŒNIX-LIKE.

With true American grit the firm of M. J. Breitenbach & Co. have emerged from their frightful loss by fire on the 29th of October in New York City. The firm is now well on its feet, and the business is going on as of old.

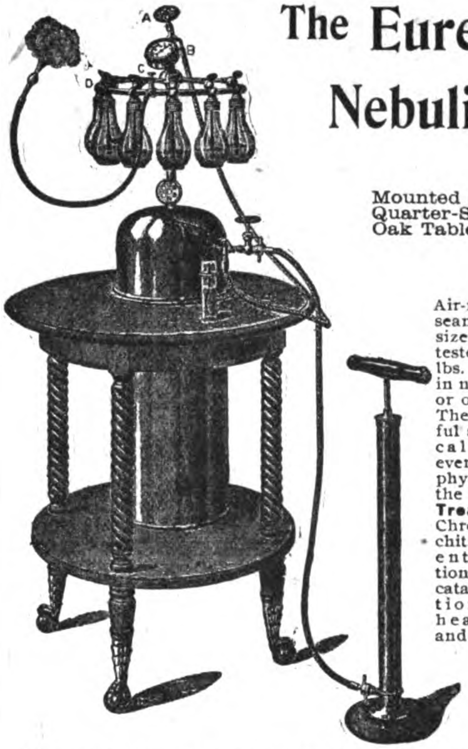
A GREAT IMPROVEMENT.

The mere fact of being able to use Stearns' special concentrated antitoxin immediately when necessary, instead of being compelled to spend twenty or thirty minutes sterilizing a hypodermic syringe, is argument enough in its favor. But when in addition to this we consider that it can be injected directly from the original bulb in which it was hermetically sealed in Stearns' biologic laboratories, thus assuring its perfectly aseptic administration, it is apparent that the improvement is a great one.

HUNTER M'GUIRE'S OPINION.

The late Hunter McGuire, the most celebrated surgeon of his time in the United States, if not in the world, was asked for his opinion of

The Eureka Nebulizer.



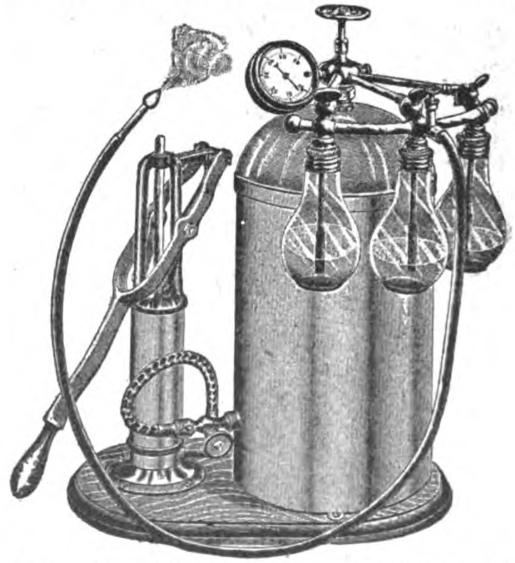
Mounted on Quarter-Sawed Oak Table.

Air-receiver of seamless steel size 10x30 in. tested to 500 lbs. Finished in nickle plate or oxidized. The most useful and practical apparatus ever offered to physicians for the **Special Treatment** of Chronic Bronchitis, Incipient Consumption and all catarrhal affections of the head, throat and lungs.

★

Forced inhalations promptly arrests the progress of diseases of the air passages, allay irritation in Bronchitis and control the cough, soothe the inflamed membranes, heal ulcerations, stimulate secretions and restore the physiologic functions—promoting a more perfect oxidation in the process of nutrition and assimilation. Operator has perfect control of the pressure, as air gauge indicates the amount used, which is very essential, and enables physicians to treat children, timid persons and invalids.;

Portable Eureka Nebulizer Combination.



Size on Base, 10x16, 20½ in. high. Weight in case, 24 lbs.

The above shows our portable Eureka Nebulizer Combinations. It is convenient to carry in buggy, and can be left with patient if necessary. Once used, physicians would not be without. No treatment relieves so quickly in the acute conditions of Ashma, Pneumonia, Bronchitis, Hay Fever and Catarrh. It is easy to work and will not get out of order.

We have other styies. Write for literature.

O. Q. HOLMAN, Gen'l Agt., 122 Kinzie St., CHICAGO.

WYETH'S

Prepared Food

—OF—

MALT, MILK AND CEREALS

—FOR—

INFANTS AND INVALIDS

A Food designed to meet the conditions which these two phases of life present must be chemically and physiologically adapted; the nutritive elements must be fixed and concentrated; the assimilable properties must be so adjusted that there may be a quick absorption and appropriation, and there must be no excess of substance to tax the power of digestion.

The constituents of this Food have been so proportioned that in preparing it for use it may be adjusted to suit all ages and conditions.

It is Wholesome, Nourishing, Economical

The superior of mother's milk; a combination affording the physician every advantage and embodying the established principles of infant feeding and hygiene.

Its diastasic properties prevent curdling, correct the ills of malnutrition and tone the weak and wasted organs of digestion.

Wyeth's Prepared Food is not a predigested Food, but one that when prepared for use immediately exerts upon itself that power of digestion which has been carefully preserved in its constituents—the Malt, rich in diastase, acting in conjunction with the pancreatic secretions, digests the fats and albuminoids of the milk, converting the starch of the cereals into sugar (Maltose) and neutralizing the tendency of the acids of the stomach to form curds; thus rendering the Food of infinite value to the infant and invalid alike, supplying the necessary nutrition and material to strengthen and build up the human economy, at the same time relieving the stomach of the infant or invalid from that expenditure of energy necessary to the digestion of ordinary food.

Its digestive properties may be shown by simple test, the progress of conversion being readily noticeable.

PUT UP IN 8-oz., 1-lb. and 6-lb. GLASS CONTAINERS

JOHN WYETH & BROTHER

INCORPORATED

WRITE FOR SAMPLES AND LITERATURE

PHILADELPHIA, PENNA.

antikamnia by Dr. Thos. C. Haley, of Riceville, Va. Dr. Haley, in writing of this circumstance to The Antikamnia Chemical Company, says as follows:

"I recently wrote to Dr. McGuire and gave him my experience with antikamnia in my own case and that of others. Of myself, I said that I had been using the five-grain tablets for four or five years consecutively, and always with great and signal relief to my sufferings. I vouched for it as being the grandest succedaneum for morphia. While I entertained these opinions personally, I still felt that the quantity taken should be justified by consultation. Hence the letter to Dr. McGuire and I am pleased to hand you herewith his reply."

The following is Dr. McGuire's reply:

St. Luke's Home, Richmond, Va., Nov 8,1894.
Thos. C. Haley, M. D.

My Dear Doctor:—I don't see any reason why you shouldn't continue to take the remedy (Antikamnia Tablets), of which you speak and which has done you so much good. I don't believe it will do you any harm. With kind regards and best wishes. Very truly yours,
(Signed) HUNTER M'GUIRE.

DRUG STANDARDIZATION.

What right has any firm, whose business it is to furnish the physician with his principal weapons, to place upon the market pharmaceutical preparations of unknown medicinal value? Should we not expect, yes, even demand, that the producer of fluid extracts make his products conform to some standard of excellence—that he shall indicate what effects his fluid extracts may be expected to have ere he sends them forth from his laboratory? It has been shown that even drugs selected with care vary most extraordinarily in their percentage of active principles. Witness, for example, this statement by the editor of a leading pharmaceutical journal, the Bulletin of Pharmacy (January, 1899), who knows whereof he speaks:

"Professor Buckner assayed nineteen samples of belladonna leaves procured, mind you, from dealers who were told that only the best was wanted, and that purchase would depend upon the results of assay. He found these nineteen samples to range in alkaloidal content from .01 to .51 per cent! The strongest sample fifty-one times as strong as the weakest."

The most careful treatment of such drugs, with the choicest menstrua, and by the most approved processes, will yield preparations that may be fair to look upon, but in medicinal value they will vary just as much as the crude drugs from which they are made. The compensatory remedy for this unfortunate condition is standardization—chemical standardization when prac-

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ARE GOOD CIGARS.

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In ten Different Sizes from 10c and Upwards.
If your dealer does not carry **FARRAGUT,** order sample box from . . . .
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Address, J. JOS. KINDRED, M. D.,
(Long Distance Telephone.) **36 Astoria.**

BAZZI-BIANCHI
PHONENDOSCOPE
Velvet-Lined Case, $4.00. Beware of Infringements.
All genuine have our name on instrument. Buy from your dealer, or, if not in stock, **from us direct.**
GEORGE P. PILLING & SON,
1229 Callowhill Street, Philadelphia, Sole Agents for U. S. A.

Leading Druggists of Minneapolis.

WEBSTER & CHURCHILL,
PHARMACISTS,
Under Nicollet House, Minneapolis, Minn.
Careful attention given to Physicians' Prescriptions.

ticable, and when that method is inadmissible, as it often is, physiological standardization.

It has been found that certain important drugs cannot be assayed chemically, as their medicinal virtues reside in unstable bodies, and these are readily decomposed in the analytical processes. For this reason the strength of such powerful and useful drugs as digitalis, aconite, convallaria, strophanthus, ergot, cannabis Indica and many others cannot be determined satisfactorily by the analytical chemist. However, the problem which proved to be an insurmountable difficulty to the chemist, was solved by the pharmacologist with ease. He tests upon living animals all drugs that cannot be assayed chemically. Dogs, rabbits, fowls and guinea-pigs receive doses of the preparations under examination. Accurate observations of their physiologic effects are made, variations are noted and corrected, until the preparations correspond in medicinal strength with the adopted standard extracts.

Formerly the physician was obliged to make his own physiologic tests of ergot, digitalis and so on; not upon dogs and guinea-pigs, however, but upon his patients. The old way was to begin with small doses of powerful drugs and then push them until the desired effect was produced. The new way is a much better one: it is safer for the patient, more satisfactory to the physician, and it is more scientific. Prompt results are assured, for the physician knows just how much fluid extract of ergot, aconite or cannabis Indica he need include in his initial dose to secure a definite result.

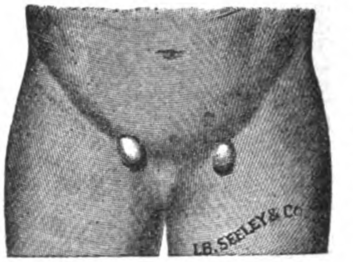
The name of the greatest pharmaceutical manfacturing house in this country is so closely linked with the phrase, "drug standardization," that the mere mention of one suggests the other. Parke, Davis & Co. began years ago to manufacture a full line of standardized fluid extracts that are guaranteed to be of definite and uniform strength. More recently they devised and perfected methods for standardizing physiologically those important drugs that are incapable of analysis by chemical processes. Parke, Davis & Co. have done a great deal for the medical profession and for humanity, and standardization, more especially physiological standardization, is one of their greatest achievements.

A PALATABLE UP-BUILDER.

"I prescribe Hagee's Cordial of Cod Liver Oil Compound as a palatable up-builder."—A. M. Carpenter, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine, Barnes' Medical College, 3537 Lindall avenue, St. Louis.

The governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a third series of clinical lectures on Diseases of the Skin, in the out-patient hall of the hospital, on Wednesday afternoons, com-

Seeley's Hard-Rubber Trusses



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A Vitalizing Tonic to the Reproductive System.

SPECIALLY VALUABLE IN
PROSTATIC TROUBLES OF OLD MEN—IRRITABLE BLADDER—
CYSTITIS—URETHRITIS—PRE-SENILITY.

DOSE:—One Teaspoonful Four Times a Day. OD CHEM. CO., NEW YORK.

The Chicago Post-Graduate School of Gynecology and Abdominal Surgery For clinical and practical instruction in gynecology. diseases of the abdomen and abdominal surgery. Monthly courses are given. Address

DR. BYRON ROBINSON, 100 State St. Chicago.

mencing November 7th, 1900, at 4 o'clock. The course will be free to the medical profession.

PRIZES FOR AN ESSAY.

Prize Contest—The Southern Medical Journal is offering a Zentmayer, $100.00, microscope, with all accessories for making any examination required in medicine, and a Universal $75.00 typewriter, for the two best original essays on any subject pertaining to medicine or surgery. Contest closes May 1, 1901. Write for particulars. Southern Medical Journal, La Grange, N. C.

COLOR REPRODUCTIONS OF BLOOD AND BACTERIA.

Reed & Carnrick, of Jersey City, New Jersey, have recently prepared a very handsome brochure containing microscopical reproductions of the blood and bacteria, which will be sent to physicians on application. The plates in this booklet are very fine, and the letter press is complete and instructive. Every practitioner who is investigating the subject of bacteriology should have a copy for reference.

AWARDED THE GOLD MEDAL.

We have been informed that Pluto Water, of French Lick Springs, Indiana, has been awarded the Gold Medal at the Paris Exposition. The reputation of this water, and the attractions of French Lick Springs are becoming world wide

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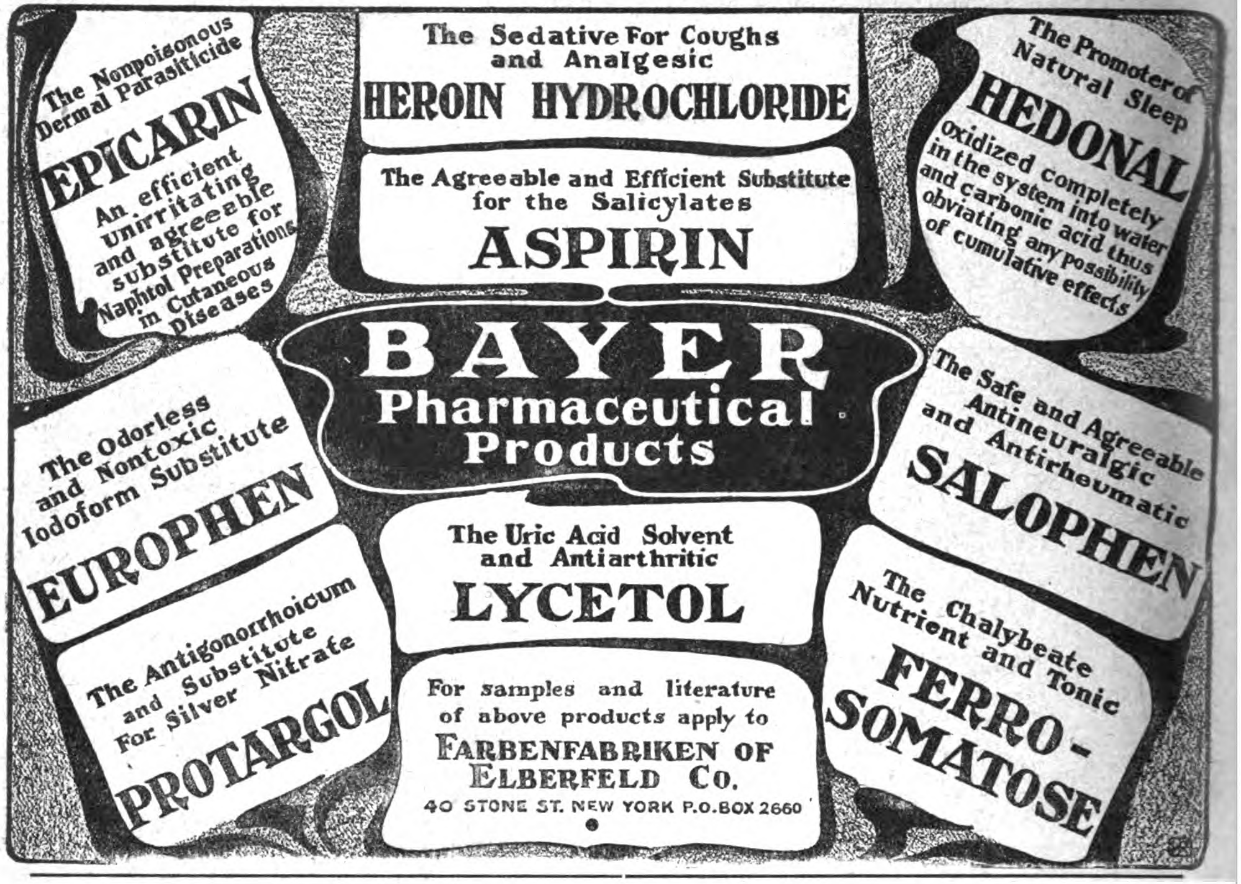
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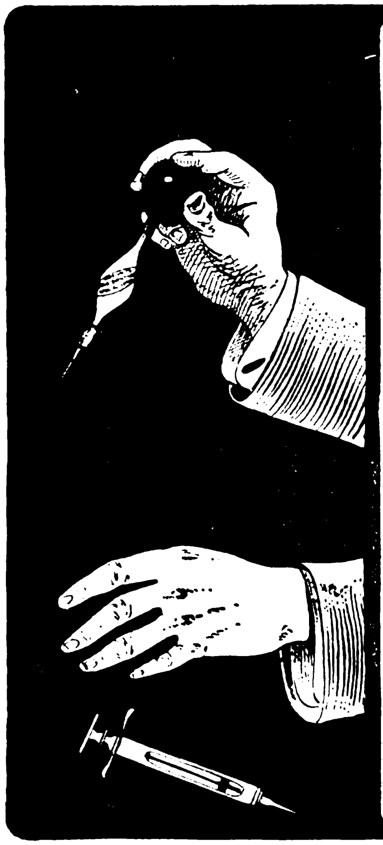

Discard your Old Syringe

kept especially for serums. It is inconvenient, has to be sterilized, is expensive and short lived.

Instead try Stearns' Special Concentrated Diphtheritic Antitoxin (500 or more units per Cc.) each bulb of which is almost instantly convertible into a simple yet powerful sterilized syringe, ready for immediate use. Direct injection of the serum from the original bulb insures perfect asepsis and saves valuable time.

This Antitoxin, unexcelled in quality, may be used more conveniently, more quickly, more safely than any other kind—therefore deserves the physician's preference.

We should like the privilege of proving these claims to you.

Biologic Laboratories of Frederick Stearns & Co.

DETROIT, MICH., U. S. A.

N. B.—Stearns' Glycerinated Vaccine yields a higher percentage of "takes" than any other kind.

LIQUOR LITHIUM MAIZENATE.

MAIZO-LITHIUM

SALIENT POINTS. SEDATIVE DIURETIC.

A genito-urinary sedative, an active diuretic; solvent and flush indicated for the relief and prevention of renal colic; a sedative in the acute stages of gonorrhoea, cystitis and epididymitis; in dropsical effusions due to enfeebled heart or to renal diseases. As a solvent in the varied manifestations of gout, goutiness and neurotic lithemia, periodical migrainous headache, epigastric oppression, cardiac palpitation, irregular, weak or intermittent pulse; irritability, moodiness, insomnia and other nervous symptoms of uric-acidemia. Decidedly *better*, more economical, extensive in action and definite in results *than mineral waters*.

In **LITHEMIA** by reason of the neutralizing power of Lithium in combination with Maizenic acid, the superior diuretic.

In **RENAL COLIC** as a solvent and eliminant of uric acid, and prophylactic against future attacks

In **URETHRITIS** as a urine alkalinizer, and on account of the remarkable sedative action of corn silk upon inflamed genito-urinary mucous membrane.

In **OEDEMA** resulting from cardiac or a renal disease the pulse becomes regular and strong; there occurs marked diuresis and increased proportion of urinary solids.

Those cases of irritable heart, irregular or intermittent pulse so frequently met with by insurance examiners and found to be due to excess of uric acid are special indication for Maizo-Lithum.

Nascent Chemic Union of Maizenic Acid from Green Corn Silk—with Lithium, forming Maizenate-Lithium Two grains to drachm. Dose 1 to 2 drachms. 8 oz. bottle, $1.00.

LIQUOR FERRISENIC.

THREE CHLORIDES

HENRY'S.

PROLONGED TREATMENT. FOR THE BLOOD.

An oxygen-carrying ferruginous preparation, suitable for prolonged treatment of children, adults and the aged. Indicated in anemia and bodily weakness, convalescence from acute diseases and surgical operations; boys and girls at the age of puberty, and the climacteric period in women. In children with chorea, rickets or who are backward in development, or in whom there exists an aversion to meats and fats. Prolonged administration never causes "iron headache."

In **CONSTIPATION** as a ferruginous laxative tonic it is effective by increasing the flow of gastric juice and the bile, exciting normal peristaltic movements.

In **CHLOROSIS** it stimulates the formation of iron-containing elements and removes intestinal auto-intoxication upon which the disease often depends.

In **ANEMIA** of all forms as a chalybeate tonic and carrier of oxygen it promotes digestion, aids assimilation of food and increases deposition of fat in the tissues; raises bodily vigor and warmth and has a favorable influence on the nervous system.

As **AN ADJUVANT** for potassium iodide the undesirable manifestions known as iodism can be removed.

Stimulant to the peptic and hydrochloric glandular system of the stomach, especially servicable in the impaired appetite, nauseau, vomiting and other gastric symptoms of alcoholic subjects.

Each drachm contains Proto-Chlor. Iron, ⅛ gr., Bi-Chlor. Mercury, 1-128 gr., Chloride Arsenic, 1-280 gr., Calisaya Cordial. Dose 1 to 2 drachms. 12 oz. bottle, $1.00.

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And the Vitalizing Constituent—Phosphorus; the whole combined in the form of a Syrup with a Slightly Alkaline Reaction.

It Differs in its Effects from all Analogous Preparations; and it possesses the important properties of being pleasant to the taste, easily borne by the stomach, and harmless under prolonged use.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, finds that no two of them are identical, and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, in the property of retaining the strychnine in solution, and in the medicinal effects.

Fellows' Hypophosphites is advertised only to the Medical Profession; is never sold in bulk, and Physicians are cautioned against worthless substitutes.

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